The NATIONAL GEOGRAPHIC MAGAZINE

Vol. XIX DECEMBER, 1908 No. 12

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THE NATIONAL GEOGRAPHIC MAGAZINE

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AN ILLUSTRATED MONTHLY, published by the NATIONAL GEOGRAPHIC SOCIETY. All editorial communications should be addressed to GILBERT H. GROSVENOR, Editor the NATIONAL GEOGRAPHIC MAGAZINE. Business communications should be addressed to the National Geographic Society.

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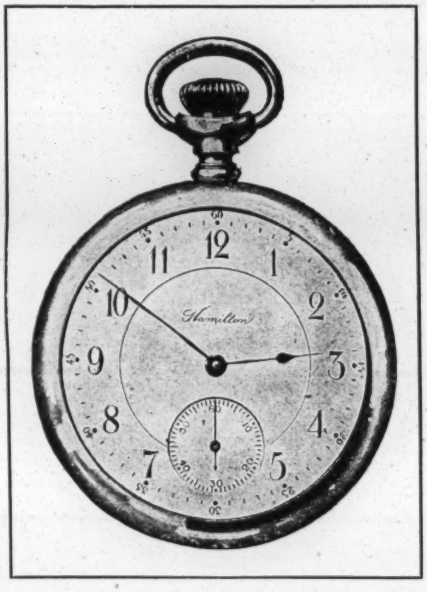

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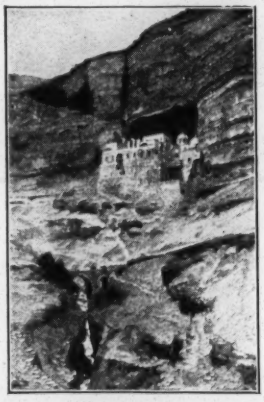

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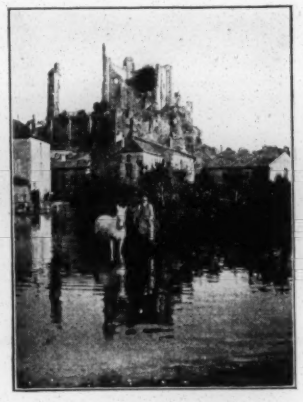

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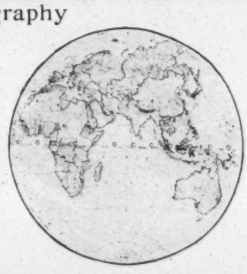

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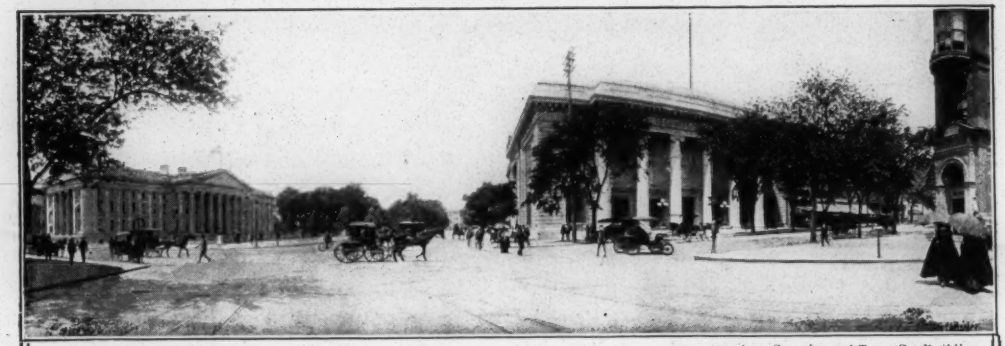

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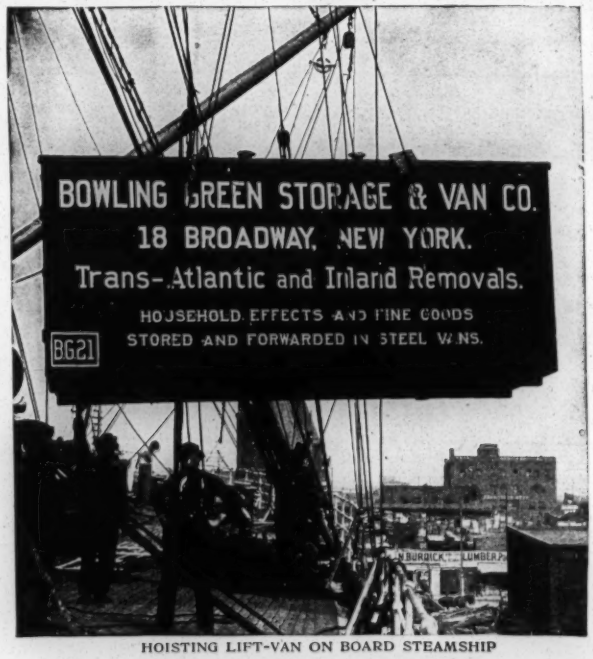
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VOL. XIX, No. 12 WASHINGTON DECEMBER, 1908

THE NATIONAL GEOGRAPHIC MAGAZINE

IN QUAINT, CURIOUS CROATIA

BY FELIX J. KOCH

With Photographs by the Author

"WHAT Hungary is to the Dual Empire, that is Croatia to Hungary," they had told us on the train as we whirled on into Agram. Agram, as you know, is capital of the crown land of Croatia. Croatia holds directly from the crown of Hungary.

What they meant was that even as Hungary is ever fomenting discord, preaching revolt, as it were, against the double crown, so in Croatia they are working for separation from Hungary, for Pan-Slavism—anything that will bring independence.

But we had come into Croatia primarily on a search for queer corners. Luck had favored us decidedly in bringing us into Agram on a Sunday morning.

On Sundays, in this part of Europe, the cities hold their markets. Not a bad idea, for then the husband can accompany his spouse to market and help bear the heavy basket.

Market time to a tourist, however, is the best of all times for viewing the native costumes of the peasants. In Croatia every village and hamlet has its particular costume. The costume varies for young men and old men, for matron and maid and dowager; but the same style has obtained for the same period of time since the days, perhaps, of Hunyadi. So one who who knows the country-sides can tell at once the girl from Sissek from the vineyard lassie of Somobor, and she can tell you who has come from Ogulin, where the moss grows heavy on the roofs, and who makes her home beside the Plitvica lakes, the summer resort of all Croatia.

This market was the cleanest, fairest, and brightest of all markets whereof we know, and we have marketed from Hopedale, up in Labrador, to Saloniki, on the Ægean. The stalls were long benches, as some harvest home in Ohio. Long aisles ran between, and in these stood the peasants. The vegetables which they offered had been arrayed in neat piles or pyramids before them. Every apple was polished, every basket was immaculately clean. In Holland we found they cleaned things to bring the tourist; here, however, touristry was practically *nil*.

Yonder, as we sauntered, was some cheese on dainty plates of porcelain. Beside it was milk in a white jug, but with a brown mottling. Up above, over each stall, an immense canvas umbrella was raised, and that, too, was white. It made us think of the market at Strassburg.

BOUND FOR THE MARKET: AGRAM, CROATIA

A STALL IN THE MARKET OF AGRAM, CROATIA

SCENES IN THE MARKET OF AGRAM, CROATIA

PEASANTS AT AGRAM, CROATIA

PETTICOATS SEEN AT THE MARKET OF AGRAM, CROATIA

A CHURCH OF AGRAM

Thousands of peasants, men and women, surged by, selling and buying. The base of each of their costumes was white. A snowy white skirt, a white waist, a white head-scarf, that would be your final analysis. Then there was bead-work at the front of the waist, and again you might note the huge slippers. In the case of the men, on the other hand, there were white, loose trousers—something after the fashion of the bloomer of the Turk or of the Dutch boys of the Netherlands. A heavy belt, a loose white jacket, then a hat of brown or of black, and you had him analyzed. Every village had its modifications, and there must have been hundreds of varied costumes here. The entire market, as a result, was a great picture in daintiest colors. From five until eleven in the morning, one could see it. Civilians—that is, Agram folk—mingled to buy. People came, too, just to look on. But the costumes were in the great majority. It was the most beautiful market scene in Europe, the opportunity to "take" all types of Croat peasants. The sun shone to lure us; we had thirty-six snap-shots ere we knew it.

These people of Croatia seemed medium, or even small, of stature. They were tanned and good-natured. They had tomatoes and potatoes, eggs, apples, and beans, lemons and pickles, beets and

A PEASANT'S HOME IN CROATIA

A BARN IN CROATIA

FISHING FOLK ON THE ADRIATIC

oyster-plants. We group these as they had them here.

Above, the great white umbrellas cast a welcome shade. Booths of fruit—pears, peaches, and a tiny red fruit like a cranberry, but of the consistency of a plum—took the eye.

Then again one caught glimpses of men with cages on their backs, each cage well filled with chickens. A buyer, selecting his particular fowl, would clutch it by the neck to lift it and feel its weight. Meat, again, in another place, was hanging from a pole built onto a wagon stand, this wagon one of many in a row. The butchers, in civilian attire, had their places outside.

That, however, was just one section. In another some women, wearing white lace-work upon the head in default of scarf, again tempted the kodak. Again, a yellow silk kerchief was made to match a snowy white waist; a heavy braid then came out from a fold of scarlet. Aprons of white lace, too, were not few.

Surging through the streets and in between the stalls were other Croats. They were orderly; they did not push; there was plenty of breathing space. Again, unlike our American markets, there was no refuse on the streets. Soldiers mingled with the crowd, loitering sometimes over great crocks with red raspberries or about stalls with jelly. Several women of identical costume would always be found together—from the same village, of course; then beyond, where they sold the mangoes, another style could be seen. Here some had head scarfs of red, with a white floral pattern. That, too, gave color to the picture. Others wore a heavy white skirt, with an old-fashioned red and blue sampler of embroidery, suspended by two cords from the belt. Many had white or yellow beads of glass wound in chains several times around the neck and dangling down the waist. To the chain some church medallion or bits of ribbon might be hung. Ear-rings were in the ears, while in the hair glistening beadwork ornaments appeared. The richer would have a dense string of coral about the neck, and then on down the waist front.

We wondered why it was that in the Dual Empire people speak of "turbulent Croatia."

We sought out an editor here, and he outlined conditions. In politics today it seems the "ins" are the so-called "Government Party," who desire a more complete union between Croatia and Hungary. In fact, these would abolish the autonomy of Croatia altogether.

As a matter of fact, however, franchise is so tangled in Croatia that it is said but two per cent of the people really vote, and perhaps one-half of all these hold offices. Hence it is the "Official Party" which is in control with the Reichstag.

DRYING SARDINES, NEAR FIUME, CROATIA

We were told that the powers that be have pretty well curbed liberty in Croatia. Since 1895, it seems, in Croatia no one may form a literary or political organization without permit therefor. One needs to have a permit even to hold a political meeting, and this, with other parties than the reigning one, is withheld at pleasure.

Trades or labor unions likewise are under the ban.

Press censorship is exceedingly strict. Only a few weeks before the interview our editor friend had copied out of some Magyar paper an article anent a dispute between the King and a certain Herzog. The edition was confiscated at once for *lese mâjeste*.

In Croatia a paper appears, say, at 1.30 o'clock. Before it may be issued a copy is sent to the censor. If there be anything therein objectionable to the

ON THE MARKET: AGRAM, CROATIA

MARASCHINO LEAVES: ZARA, DALMATIA, WHERE THE FAMOUS MARASCHINO CORDIAL IS MADE

IN THE AUSTRO-HUNGARIAN PROVINCE OF DALMATIA

government, in perhaps a quarter of an hour the police will come and seize all the copies; the editor is also arrested or else must pay a heavy fine. With the populace, however, the editor becomes a hero; such imprisonment is not looked upon as a shame.

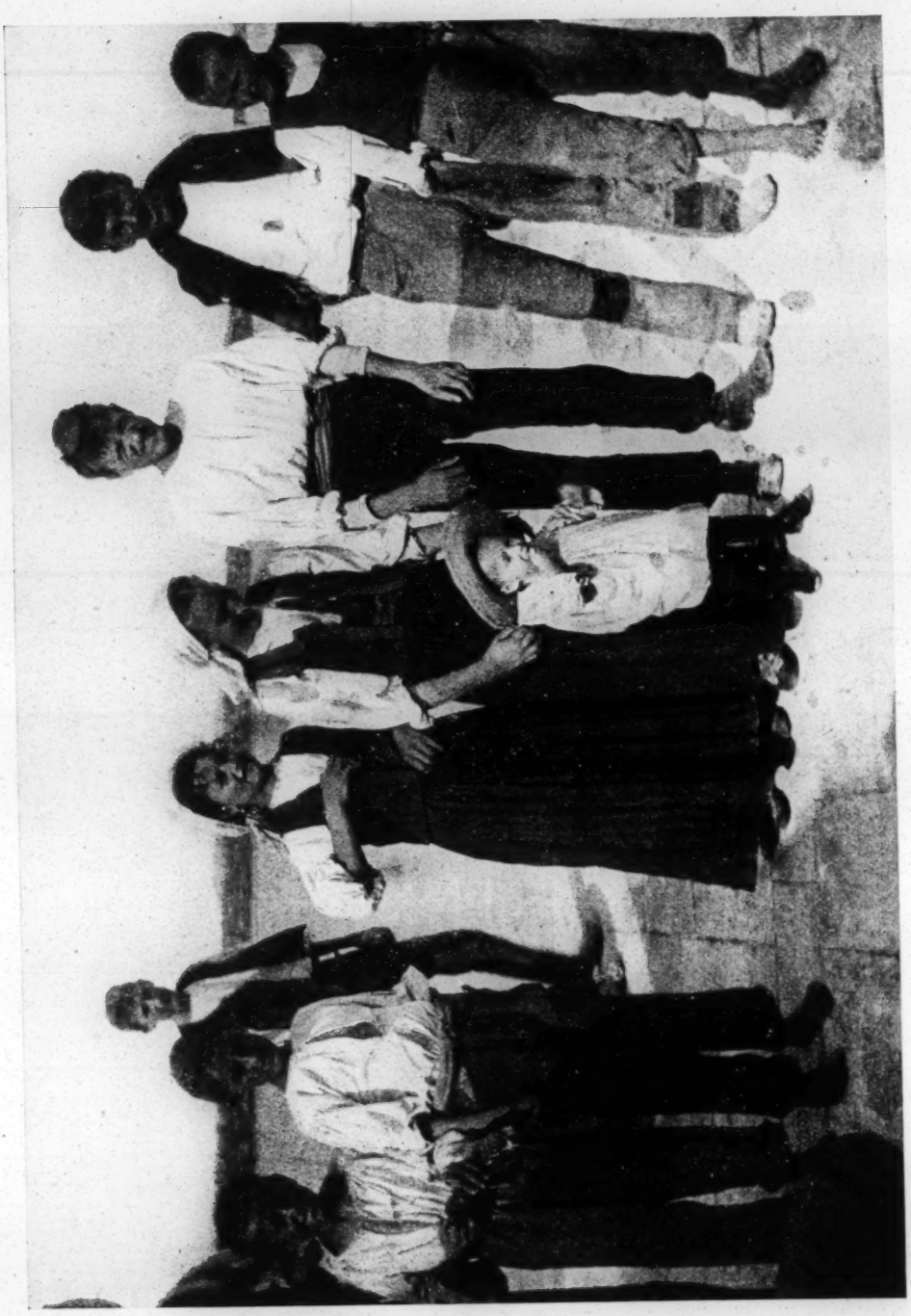
There are no newsboys in Croatia. Instead a subscriber comes to the office to get his copy or else it reaches him through the mail. Hence it is that the government can seize practically all copies of an edition within a short time after appearance. Often, moreover, it will be two or three days before the editor may know for just what article he was fined.

Again, the opposition papers do not get recognition from the government as journalists do. Hence they do not get passes on the government railways, are refused permits through the police lines in time of trouble, and have most strenuous times competing with their more-favored rivals. Strangely enough, in Croatia they are free to criticise the Hungarian government, but not that of Croatia itself.

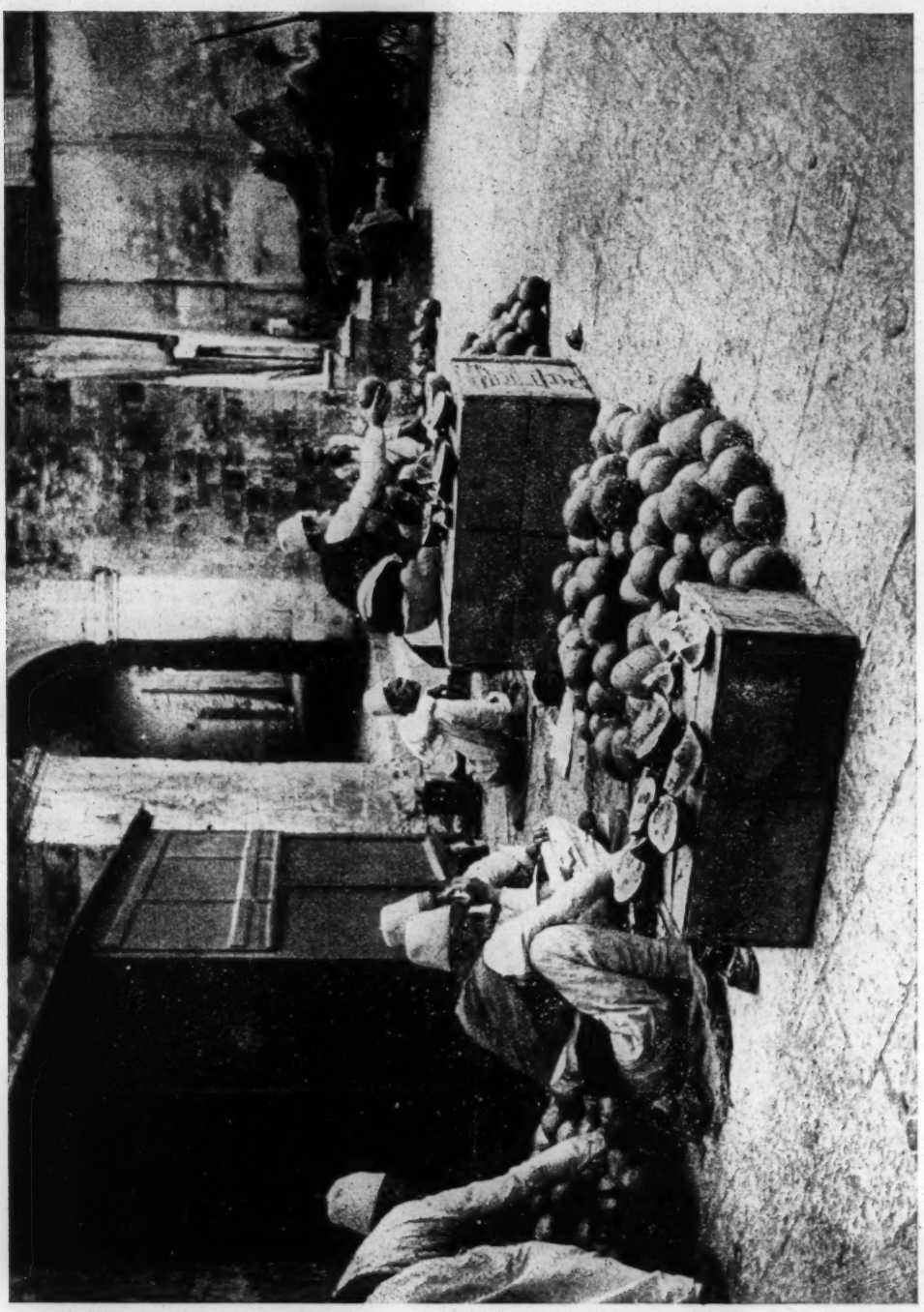
A traveler in Croatia finds other things of even greater general interest.

Fiume, the great Magyar seaport, for example, while appearing on the map as nominally Croatian, is in fact a royal free city—one of the very few of the sort remaining in Europe. It holds direct from the Crown.

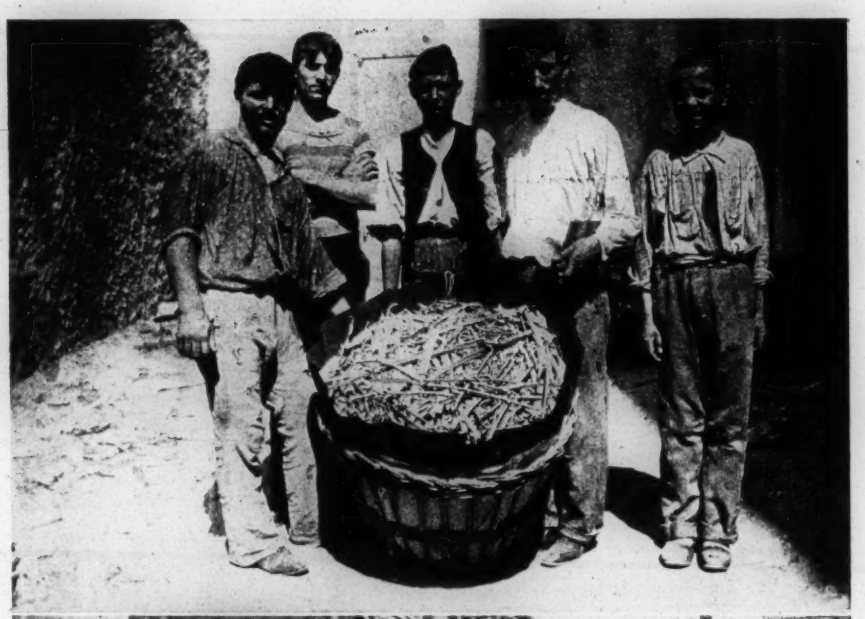
Fiume has an American interest, in that it is at this port that the tremendous hordes of immigrants from the southeast of Europe embark for America. Vessels especially built for immigrant service take these across at a minimum rate.



PERHAPS THE SMALLEST CAP ON EARTH. OFTEN A MERE DISC OF RED CLOTH THE SIZE OF A DOLLAR: IN DALMATIA

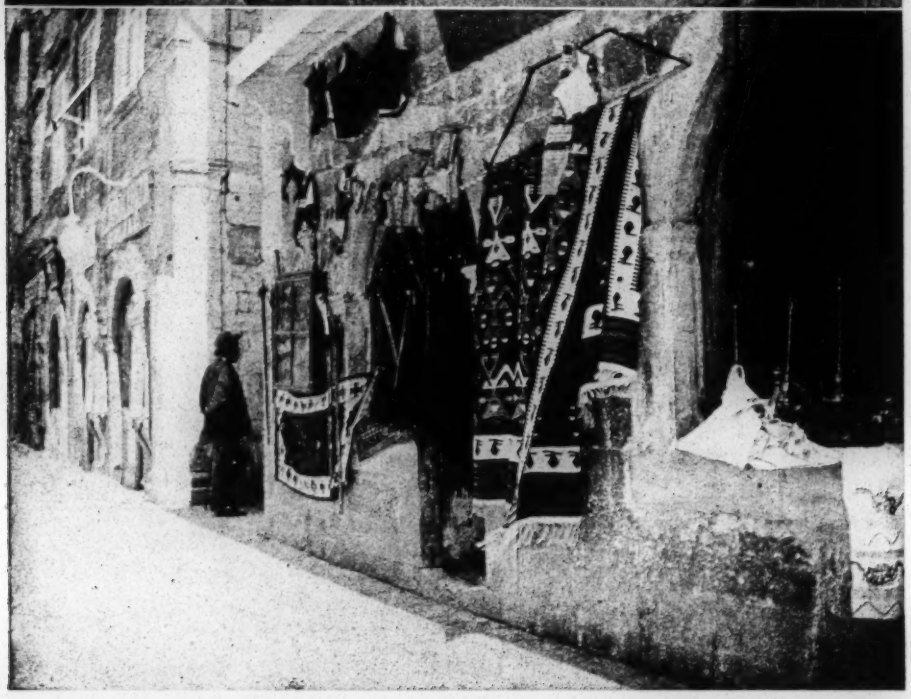


THE MELON MARKET IN SOUTHERN DALMATIA



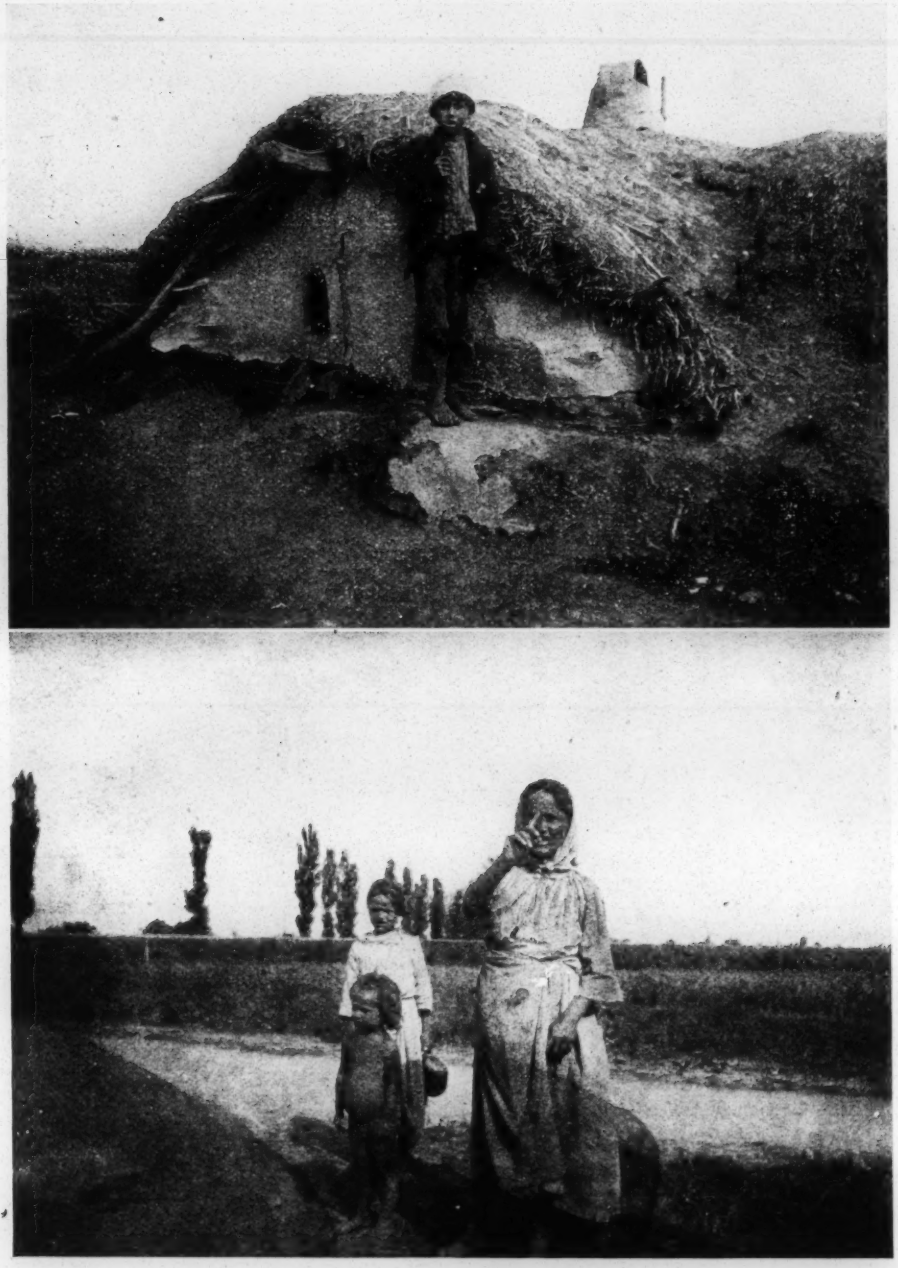
SCENE IN THE MACARONI FACTORY

A CHURCH PARADE FOR RAIN IN A DROUTH: ZARA, DALMATIA

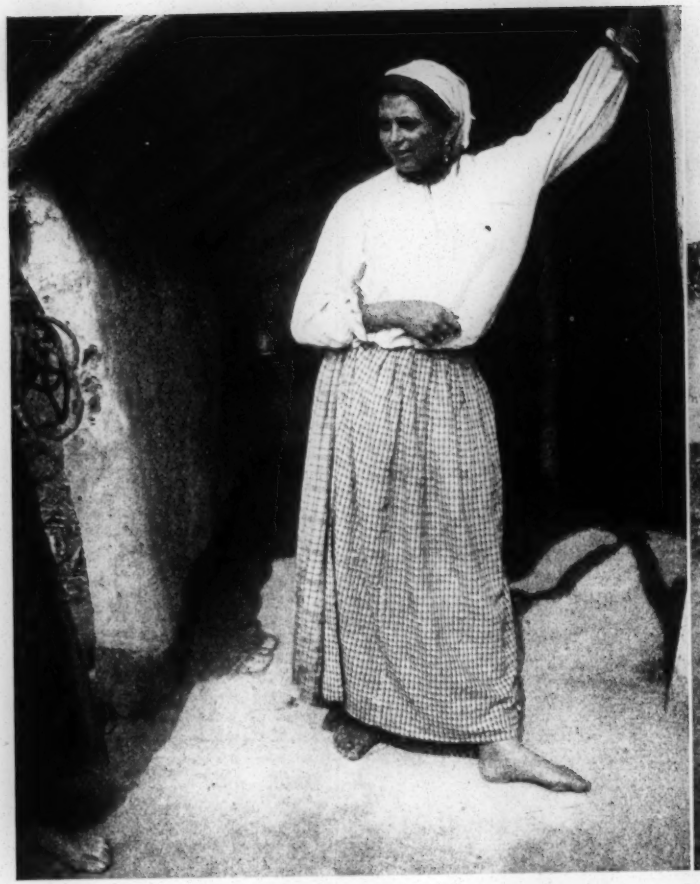


THE HAZEL GATHERERS OF ROVIGNO. THESE NUTS ARE WORLD RENOWNED

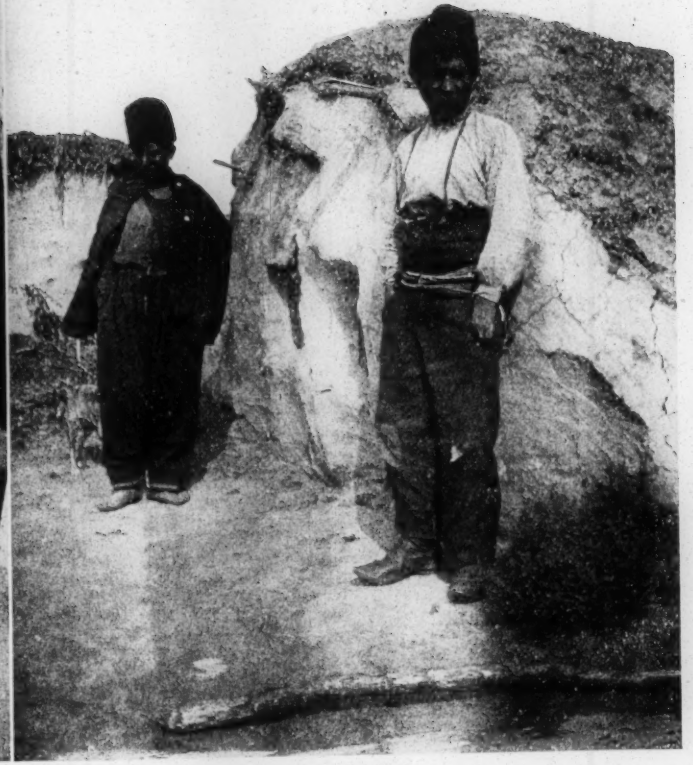
A SHOP AT SPALATO. INSIDE DIOCLETIAN'S PALACE OF 305 A. D.



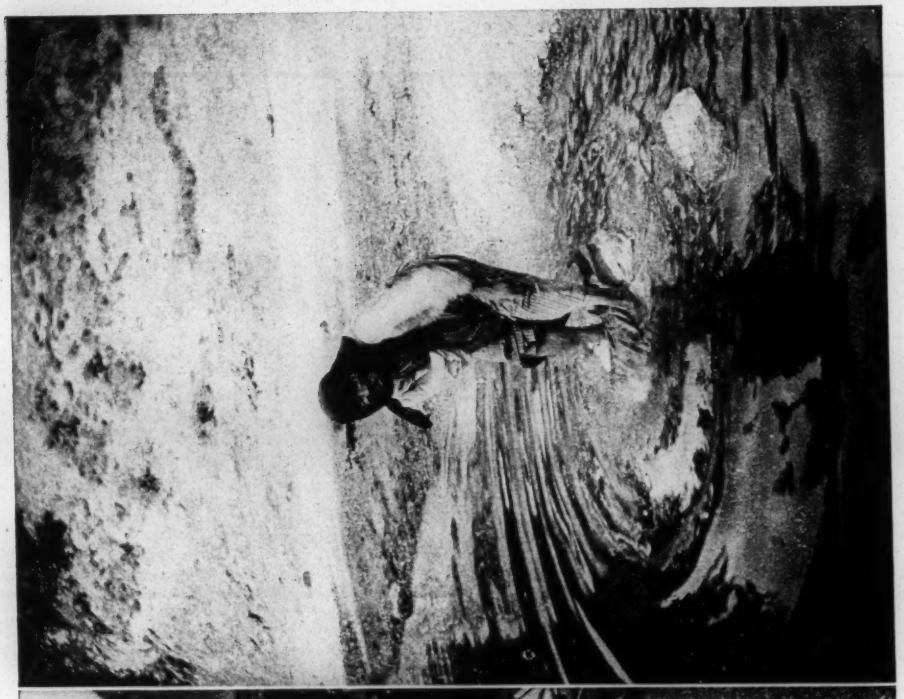
A GIPSY'S HUT AND FAMILY



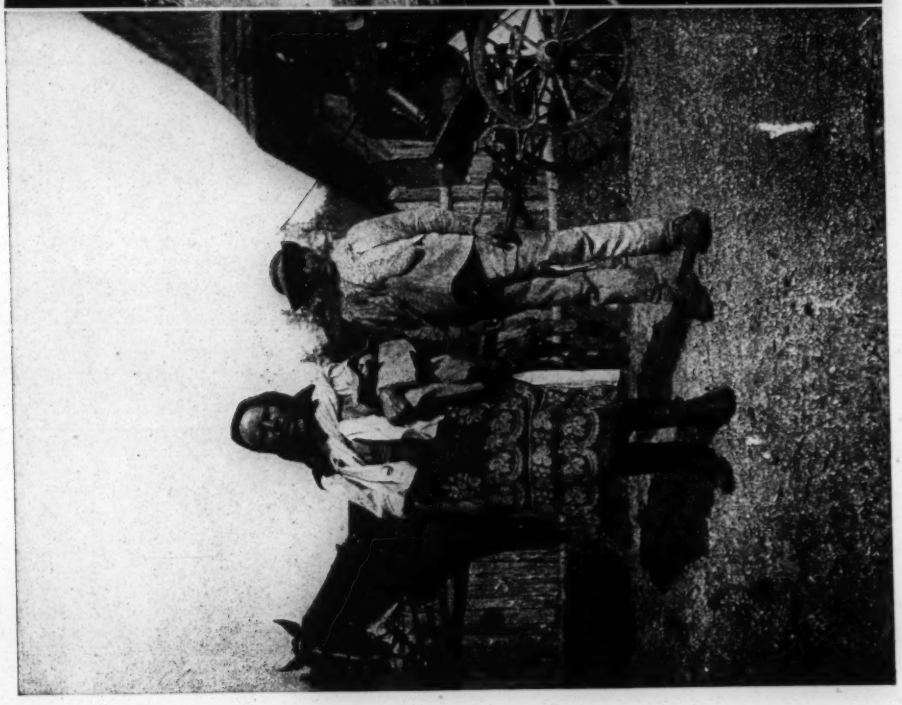
INSIDE A GIPSY HUT. ONE STALL IS USED BY THE FAMILY, THE OTHER BY THE PIGS



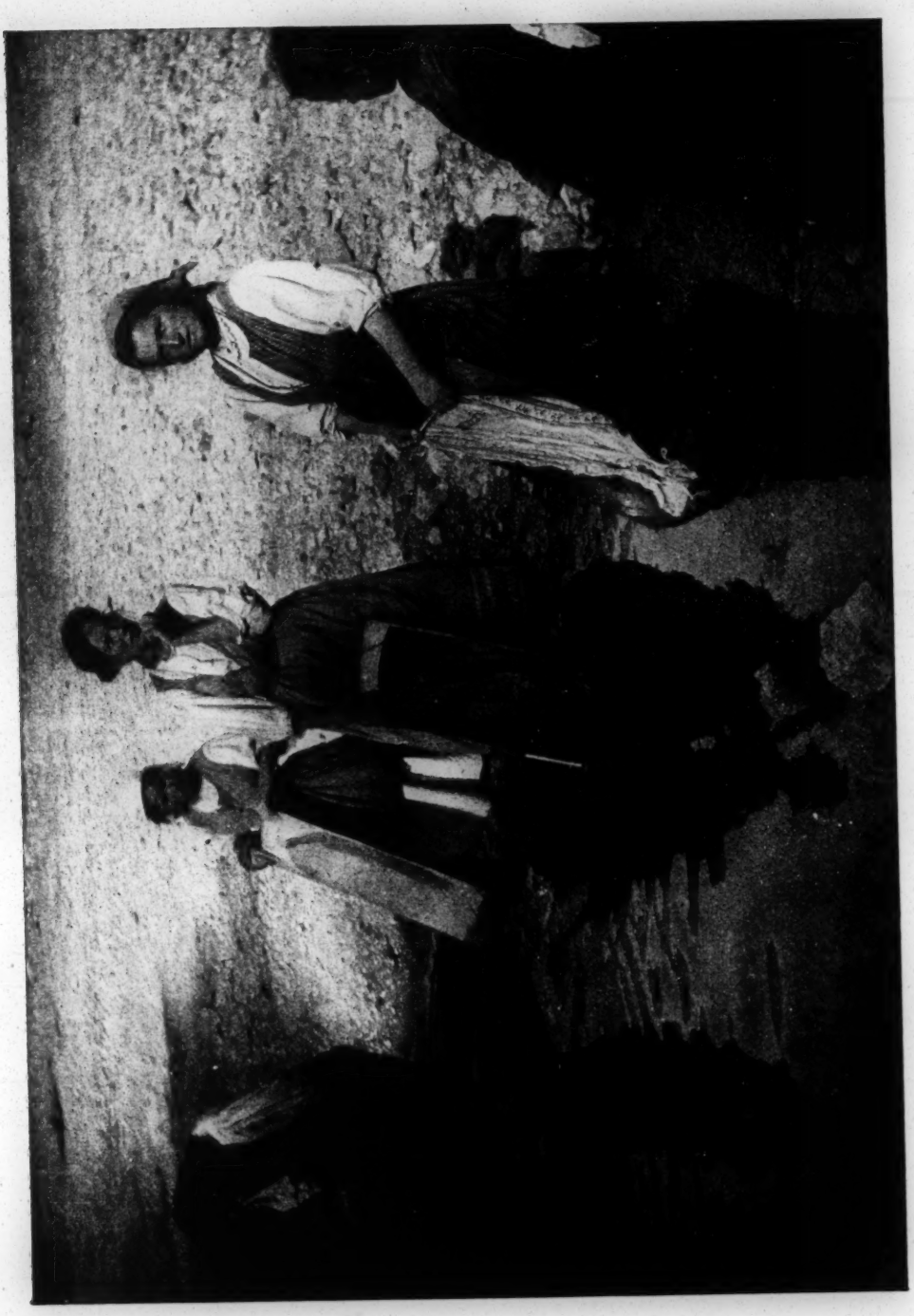
GIPSY MEN



TREADING THE WASH, CROATIA



SLOVAK PEASANTS IN CROATIA



WASHING IN THE DOBRA: CROATIA

PEASANT BOYS: CROATIA

Ogulin is another point of interest. The little cottages here have all the charm of a cotter's life in Scotland.

It is cold, very cold, however, at Ogulin, in seasons when the *bora,* the cold northeast wind, blows, and so they have thatched the roofs thickly, and on the shingles the moss grows soft.

Quaint, old-fashioned gardens there are, too.

You remember the gay-colored balls of glass we used to see on our Christmas trees. In Croatia they mount these on poles, and then set them to the right and left of the walk. Here and there, too, among the flowers there are others of these balls.

Summer afternoons at four every one repairs to the garden. The men and the young girls come back from the fields, for here every one lives in town, working the fields outside. The mother will have the coffee brewed, and so they indulge in a bit of luncheon. The old grandfather pulls out a pipe curved of stem and with heavy porcelain bowl. The girls "take a hand" at the sampler and sew for an hour or so; then away to their several duties.

In the life of the Croat the patient ox very largely supplants the horse. Things are primitive, and so one has the town swimming-hole, where the youngsters bathe and the women come to wash their linen.

At Somobor there is another phase of life. Somobor stands among the vineyards where they raise the grapes for the wine. In many parts of Croatia a glass of wine is far cheaper than drinking water. Drinking water, even in the city hotels, is served only when asked for.

Incidental to the grape industry, they have opened here a "grape cure." To this come those afflicted with a variety of ills. Then for your complaint you are

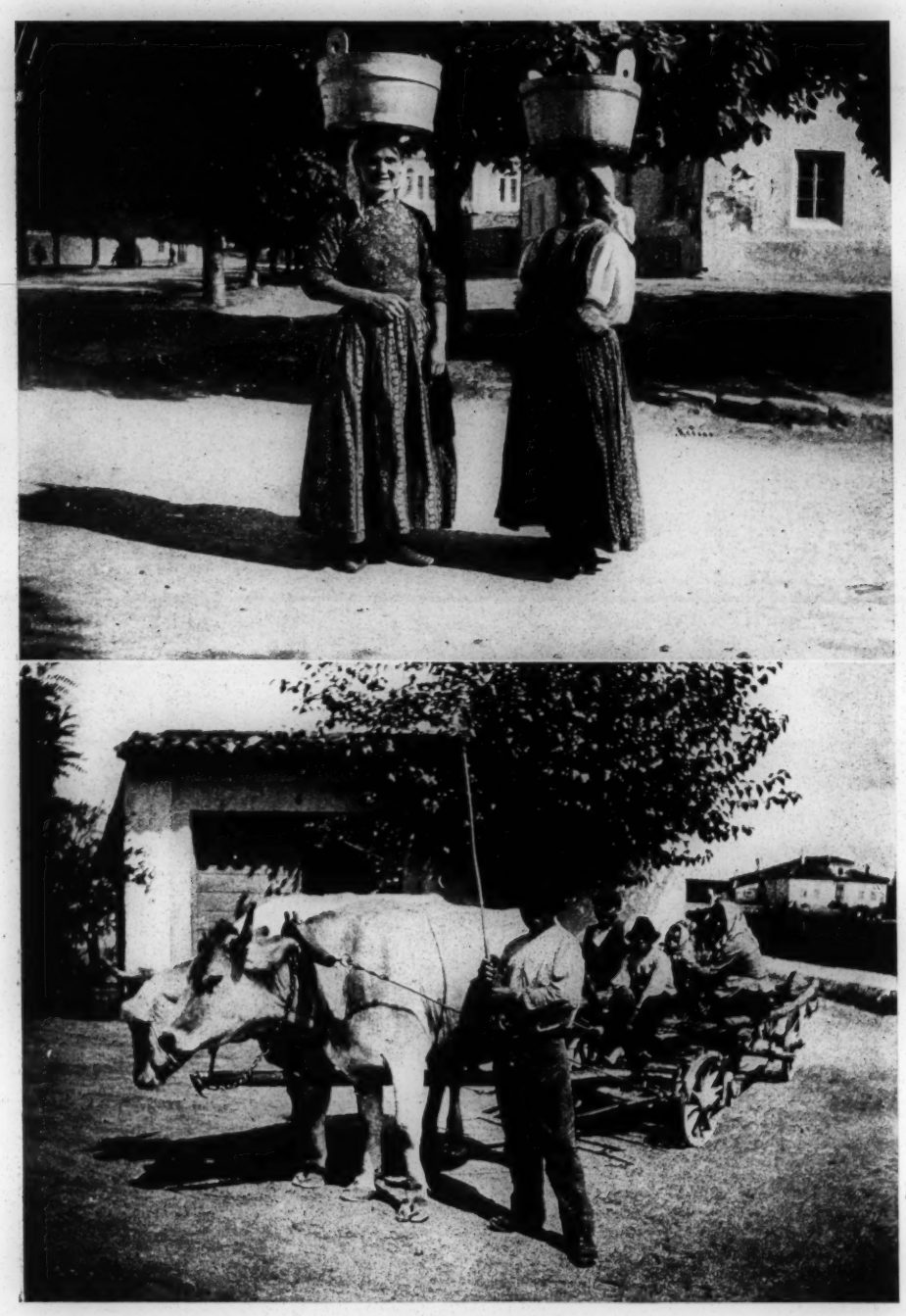
ON THE MARKET: POLA, CROATIA

advised to eat so many pounds a day of this sort of grape or perhaps of that and of the other.

Another feature of life here are the roads and the gipsies. What would Croatia be without these wanderers of the road sides? Long, steepling Lombardy poplars hedge in the thoroughfares, and one looks for miles down a tunnel of green.

Recently the government has sold the trees to the gipsies at something like two to three dollars apiece. They cut them for the timber. Again and again, on the roads, one meets the gipsies busy felling the trees or mayhap resting from their labors.

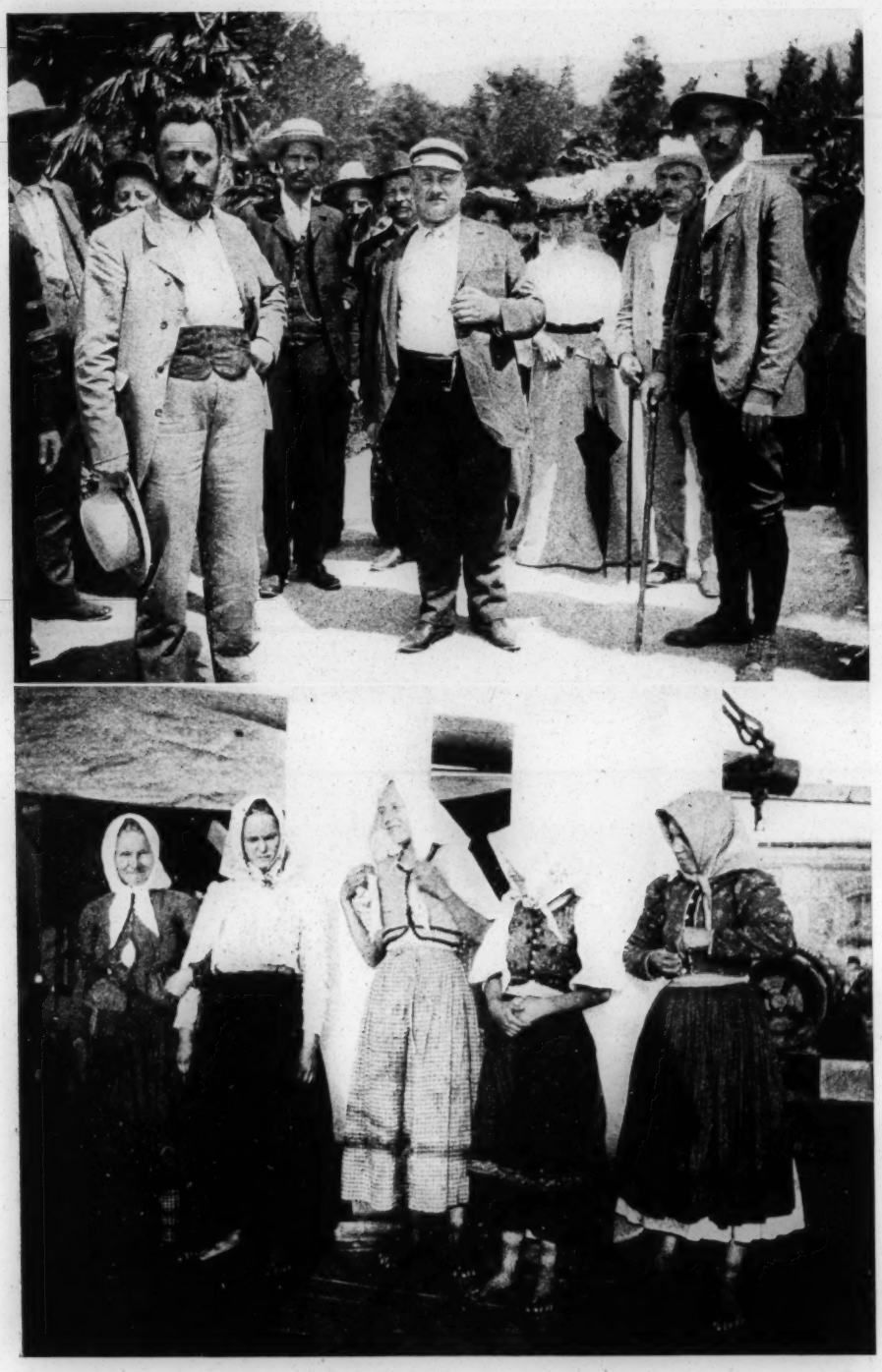
Both men and women braid the hair in little braidings, and as the raven locks fall on the coat it is hard to tell the sexes apart from behind. These are not the musical gipsies, but they are carpenters, smiths, and horse traders. Here today, yonder tomorrow, the Ishmael of today is the gipsy. But he is but one of many sidelights of life here in Croatia. It is interesting, this Crown land, turbulent though it may be. One wonders that to the tourist it remains still a well-nigh undiscovered country.



AT OGULIN, CROATIA

AT WORK IN THE SALT BEDS: CAPODISTRIA

SALTING IT DOWN BETWEEN THE LAGOONS: CAPODISTRIA, AUSTRIA



GOOD TYPES IN CROATIA

EMIGRANTS AT FIUME READY TO LEAVE FOR THE UNITED STATES

SOME RUINED CITIES OF ASIA MINOR*

By Ernest L. Harris

American Consul General to Smyrna

ON the top of Mount Pagus, which overlooks the bay and modern city of Smyrna, stand the ruins of a medieval castle. If it had never been destroyed it would probably be today as interesting a sight as the castle of Heidelberg or the Alhambra of Grenada. But only a few old walls are left, and even these are being rapidly torn to pieces in order to furnish the necessary paving material for the streets of Smyrna. In Germany everything is done to preserve or restore the old monumental castles which ornament the length and breadth of that country. In Turkey everything is done, on the contrary, to hasten and complete their ruin.

Mount Pagus has a history of its own. It has been the center of centuries of strife. Alexander the Great once spent a night upon its summit, and when he awoke in the morning he was so impressed by the natural beauty of the surrounding scene that he declared it was a situation worthy of a city. It is claimed that he induced the inhabitants of the ancient city across the bay to remove to the Pagus. King Lysimachus built an acropolis where the castle now stands, and upon the slopes of the hillside were grouped a stadium, theater, and other public buildings.

Smyrna then rose rapidly to affluence and power. It was one of the Asiatic cities which competed and won the permission to erect a temple in honor of Tiberius, the ruins of which have entirely disappeared.

Smyrna was one of the seven golden candlesticks of Asia, being the seat of one of the Seven Churches. Polycarp was martyred in the stadium in 155 A. D.

Apart from the disasters of war, the old city on the Pagus was often destroyed by earthquakes, but the Byzantine Greeks being hard pressed by the Turks, as often restored its fortifications and castle. Smyrna was always the center of conflict, because it could be strongly fortified and easily provisioned from the sea. It was the scene of terrific contests between Omar and the Knights of Rhodes. Then came the struggle of the Genoese and Venetians for commerce and trade, especially the former, who obtained treaties with Smyrna, Chios, and Phocia.

The Genoese influence and establishments were so numerous in this country 600 years ago, and the impression they created was so powerful, that even unto this day all the ruins scattered over the countryside are known by the name of Genoese. Ruins of Genoese castles are very numerous along the coast of the Levant and in the islands of the archipelago. In 1402 Tamerlane wrenched Mount Pagus from the Knights of Rhodes and built a wall with their skulls. When the Tartar chieftain retired the Turks again took possession, and with the exception of one short period thereafter, when the Venetians stormed the city and slaughtered the inhabitants, Mount Pagus and Smyrna have remained in the undisputed possession of the sultans. As the remains of antiquity have disappeared from Smyrna it has become a very interesting modern half Oriental, half European city.

The Yuruks, to whom I have referred several times, are nomads who wander over Asia Minor and have no special place where they remain for any great length of time. They speak Turkish and claim to be Moslems. They are always accompanied by their flocks and herds, which often consist of many thousand sheep, cattle, and camels. They are by no means poverty-stricken and are, as a rule, quite hospitable to the traveler when they are well paid. In traveling over Asia Minor, far from the seacoast

* Continued from the November, 1908, number.

cities and railway communications, the traveler often meets with the Yuruks, and to a certain extent must depend upon them for information and food. While visiting the ruins of Hierapolis, I became the guest, for an hour or so, of the Yuruks encamped at that ancient place. The Turkish coffee served was the best that I have ever had in this country. Cooked in a little brass pot imbedded among glowing embers of charcoal heaped in a large brazier, this coffee, served in tiny cups, produced a drink the palatableness and fragrance of which, upon similar occasions, has worthily called forth the admiration of such a great traveler as Bayard Taylor.

Asia Minor in some respects is a sportsman's paradise. In the months of December and January the coast districts of the vilayet of Smyrna abound in woodcock, and, strange to say, they seek shelter for the most part among the ruins of the ancient cities. Snipes are frequent among the marshes. In the month of September great flights of quail settle to rest in this part of the country, and more especially in the island of Mitylene, before they continue their way to Africa. During a visit to that island last autumn I saw thousands of quail brought into the market of the little town. They were all alive, and had been caught in nets at a certain place in a deep ravine near the coast, where they settle a few hours each year in their onward flight across the Mediterranean.

Ducks are very numerous. Near the ruins of Ephesus there is a vast marsh where thousands of them may be seen in the month of January. Nearly every other kind of water fowl are to be found in more or less numbers throughout the country. Partridges are also plentiful. This vilayet is noted for wild boar. The Meander plain is their home, but they often come as far as the suburban towns of Smyrna. The brown bear is said to be numerous in the interior of the country, and leopards are often shot among the hills not far from Smyrna. Hare is abundant everywhere. Wildcat, panther, mountain lion, and lynx are said to exist in some numbers in the interior. Deer are plentiful in the highlands, and fox hunting is good.

LESBOS, OR MITYLENE

Rising up like a huge promontory from the sea, the Island of Mitylene may be seen from far away. It is, and ever has been, one of the most prosperous islands of the Ægean Sea. It has an area of about forty miles in circumference, the surface of which is broken by two deep inlets. The mountain tops, among them the lofty Olympus, are covered with forest, and the little streams which flow through the deep valleys never go dry. It is an attractive island. The ancient Æolians termed it the pearl of their race, and Terpander and Sappho sang of its beauty in their lyrics no less than twenty-six centuries ago.

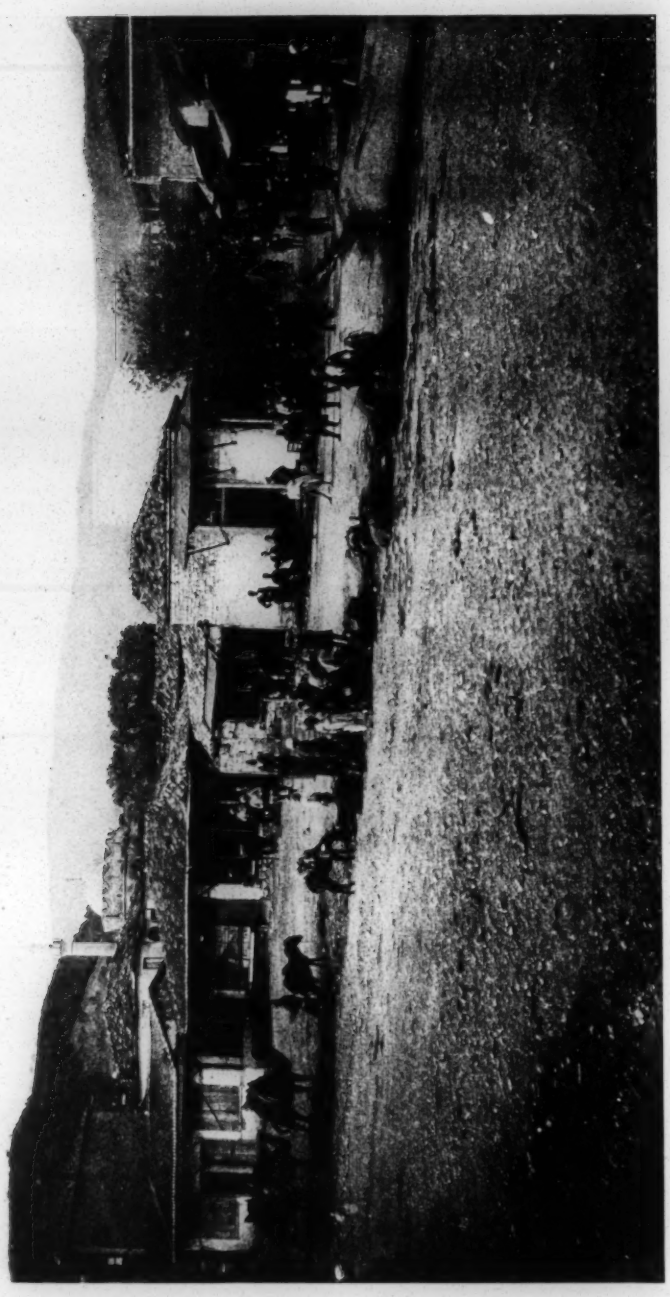
There are a few antique remains in Mitylene. Here and there traces of the walls of ancient Lesbos may be seen, as well as remnants of a theater. The castle of Mitylene is the finest monument of the middle ages to be found anywhere in the Orient. It is built upon the site of the old Lesbian acropolis, which at that time was disconnected from the mainland by a narrow sheet of water. This castle was built by the Genoese, and a visit to it will be rewarded by a splendid view of the town and harbor. At one time it must have been a strongly fortified position. Today it is the headquarters of a small Turkish garrison.

The writer visited Mitylene on two occasions in the summer of 1907, and spent in all about a fortnight there. One excursion was made to the entrance of the Bay of Hiera, and the other to the center of the island. In Roman times a huge aqueduct brought water from the base of Mount Olympus to Mitylene. Many of its arches may be seen not far from the town, and they give a good idea of the gigantic works executed by the ancients in this respect. There are several Genoese castles of note in different parts of the island, which tell the tale of the ascendancy of this seafaring people in the middle ages. Occasionally one stumbles

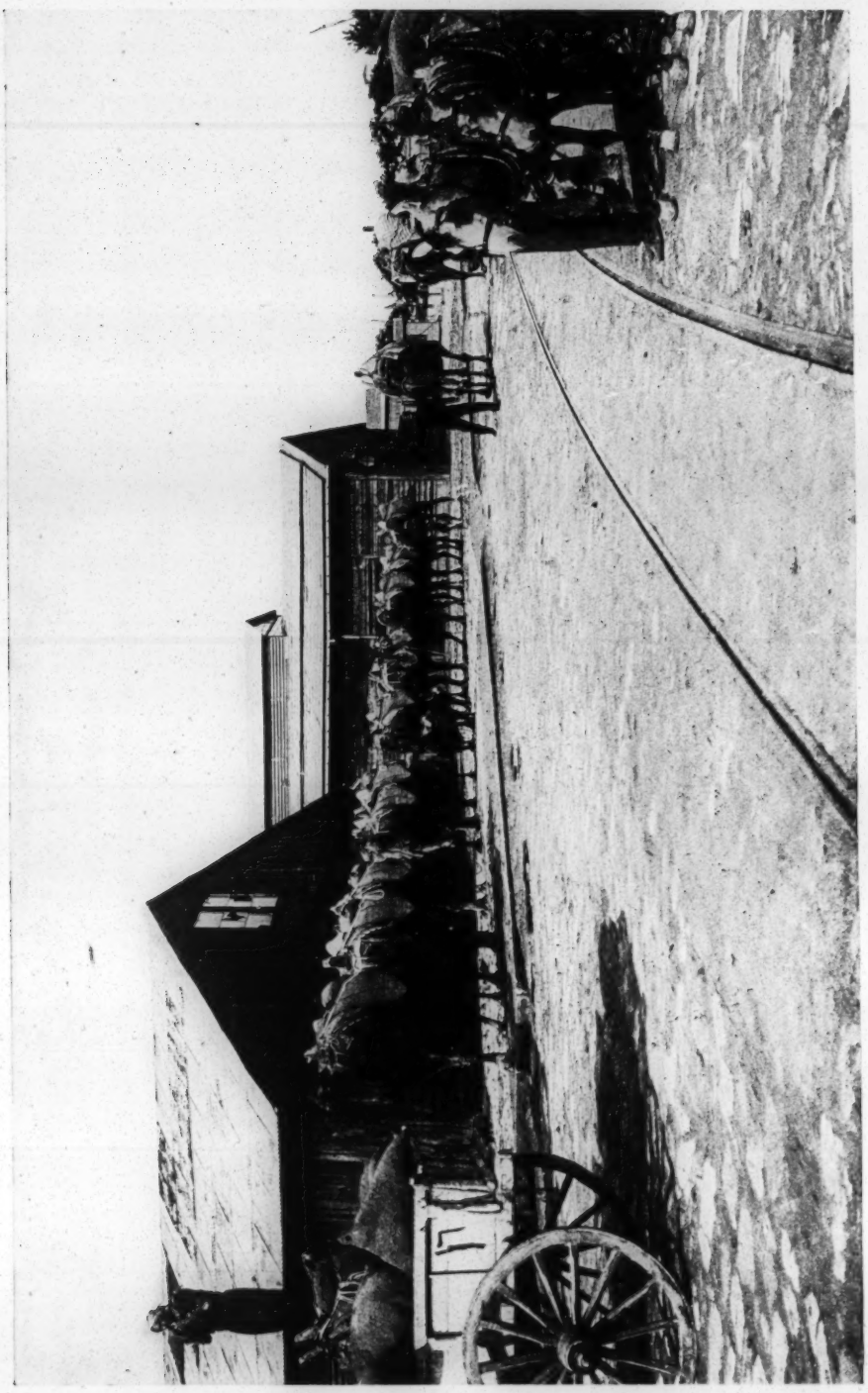
BIRDSEYE VIEW OF SOUTHERN PART OF PRIENE, SHOWING THE WINDING MEANDER IN THE PLAIN

This city has been completely excavated by the Germans (see page 857)

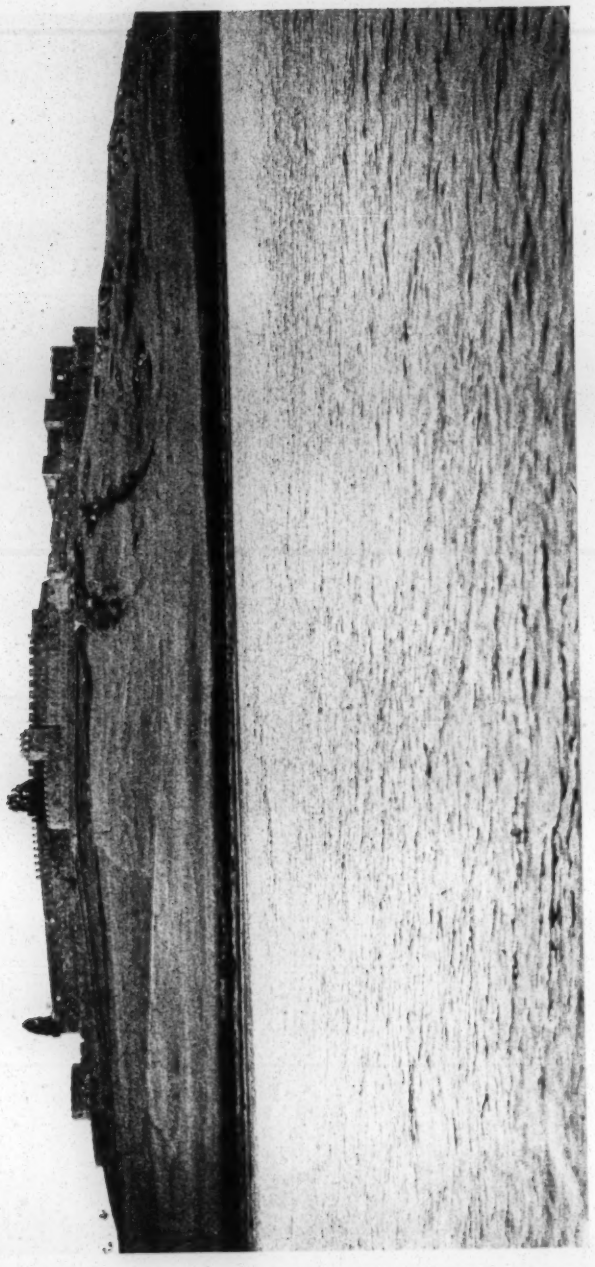
All the illustrations accompanying this article are from photographs by Consul Harris



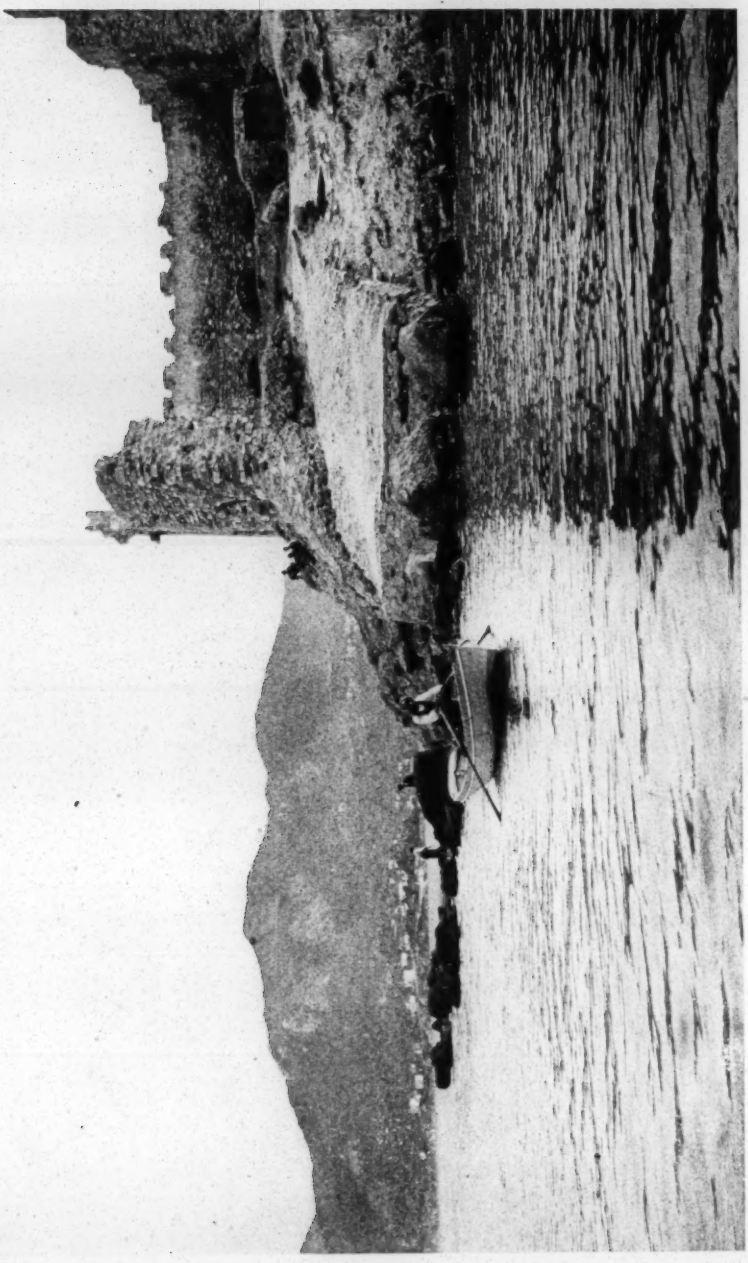
A TYPICAL TURKISH TOWN OF ASIA MINOR, NEAR SMYRNA



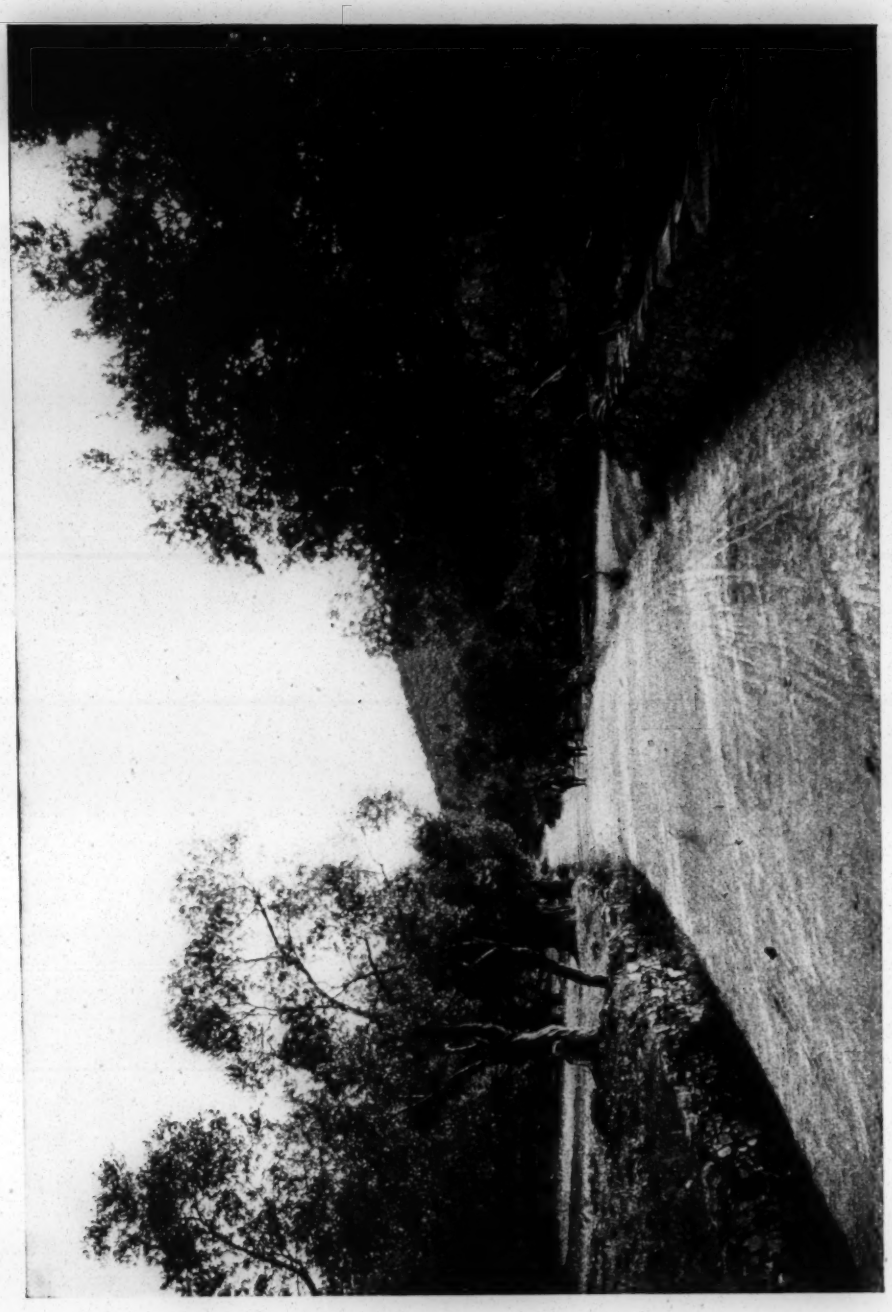
CAMEL DRIVERS UNLOADING CARGO AT A STATION, NEAR SMYRNA, ASIA MINOR



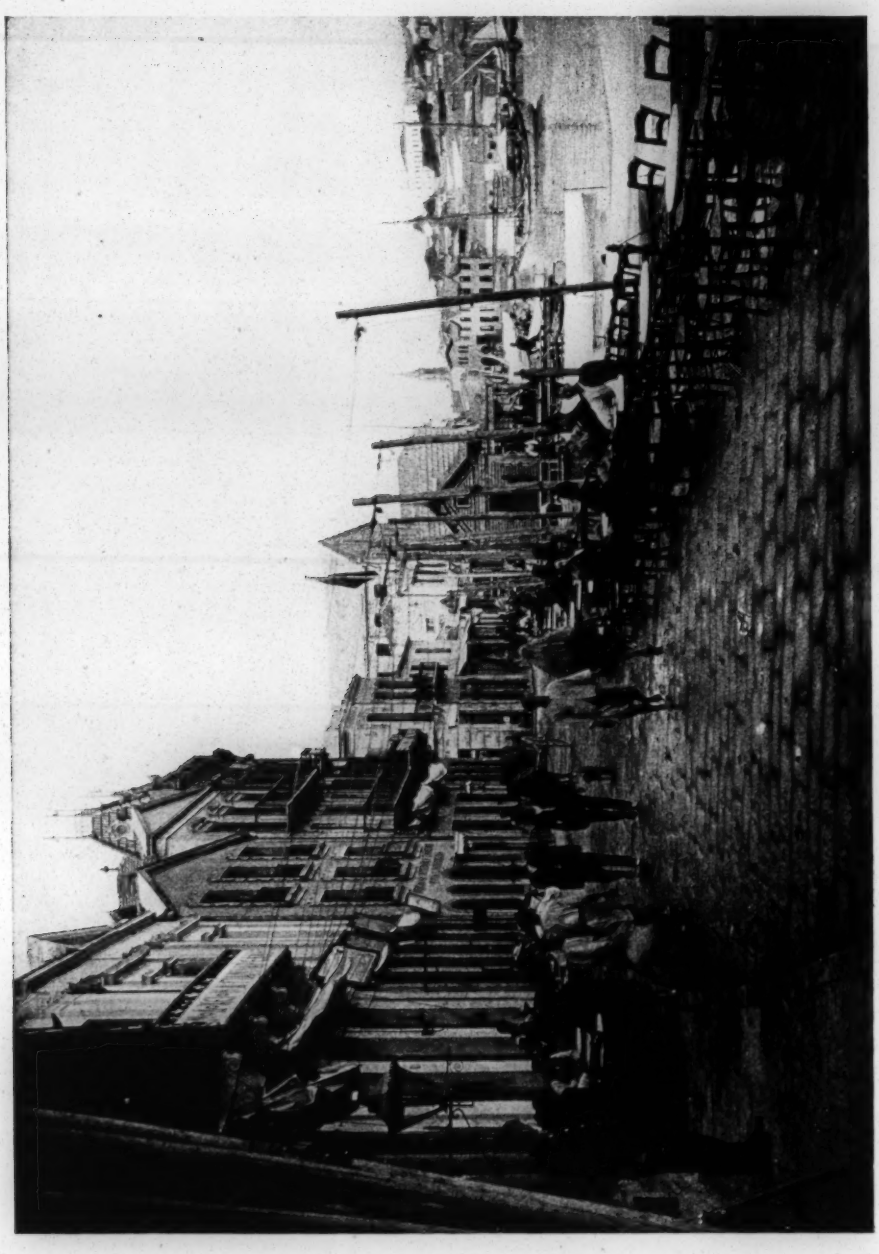
MITYLENE: THE OLD GENOESE CASTLE AS VIEWED FROM THE SOUTHERN HARBOR



MITYLENE: CASTLE MOLE AT THE ENTRANCE OF THE HARBOR



MITYLENE: PUBLIC ROAD THROUGH AN OLIVE ORCHARD



SCENE ON THE QUAY OF MITYLENE

SACK MENDERS AT WORK: SMYRNA

upon a ruin which dates from prehistoric times. But such are rare, and when they are found archæology is silent upon the story of their past.

Nothing but the hills and bays have remained the same as the Æolians knew them. That ancient race is gone, and many a one since then. But the island has remained the same. As Lesbos was, so is Mitylene today. The same, and yet how changed! Upon that shore the lyre of Sappho may be heard no more. She and her lover, and the Leucadian rock from whence she sought her death, are gone, and from that height today a monastery looks down upon the Ægean Sea. The island nation which lived to see a civic crown conferred on Cæsar, and to welcome Pompey as a fugitive, lives only now in name. Even the necropolis, to which they all were borne, has disappeared.

Modern Mitylene is very fertile, and produces all the fruits native to these regions. The chief wealth of the island is the olive tree. The forests provide timber and pitch for the small but prosperous boat-building industry, which gives a livelihood to many of the inhabitants. Farming is only done on a small scale, for the reason that there is but little arable land. The roads are good—much better, in fact, than on the mainland—and are kept in a good state of repair. The people are honest, sober, and industrious.

As coins and inscriptions of rare antiquity are often found in various parts of the island, it is thought by those in a position to know that excavations properly conducted would bring to light monuments and relics of great value.

EPHESUS

Of the twelve Ionian cities which once thrived at various places along the western coast of Asia Minor, Ephesus was different than the rest, inasmuch as it

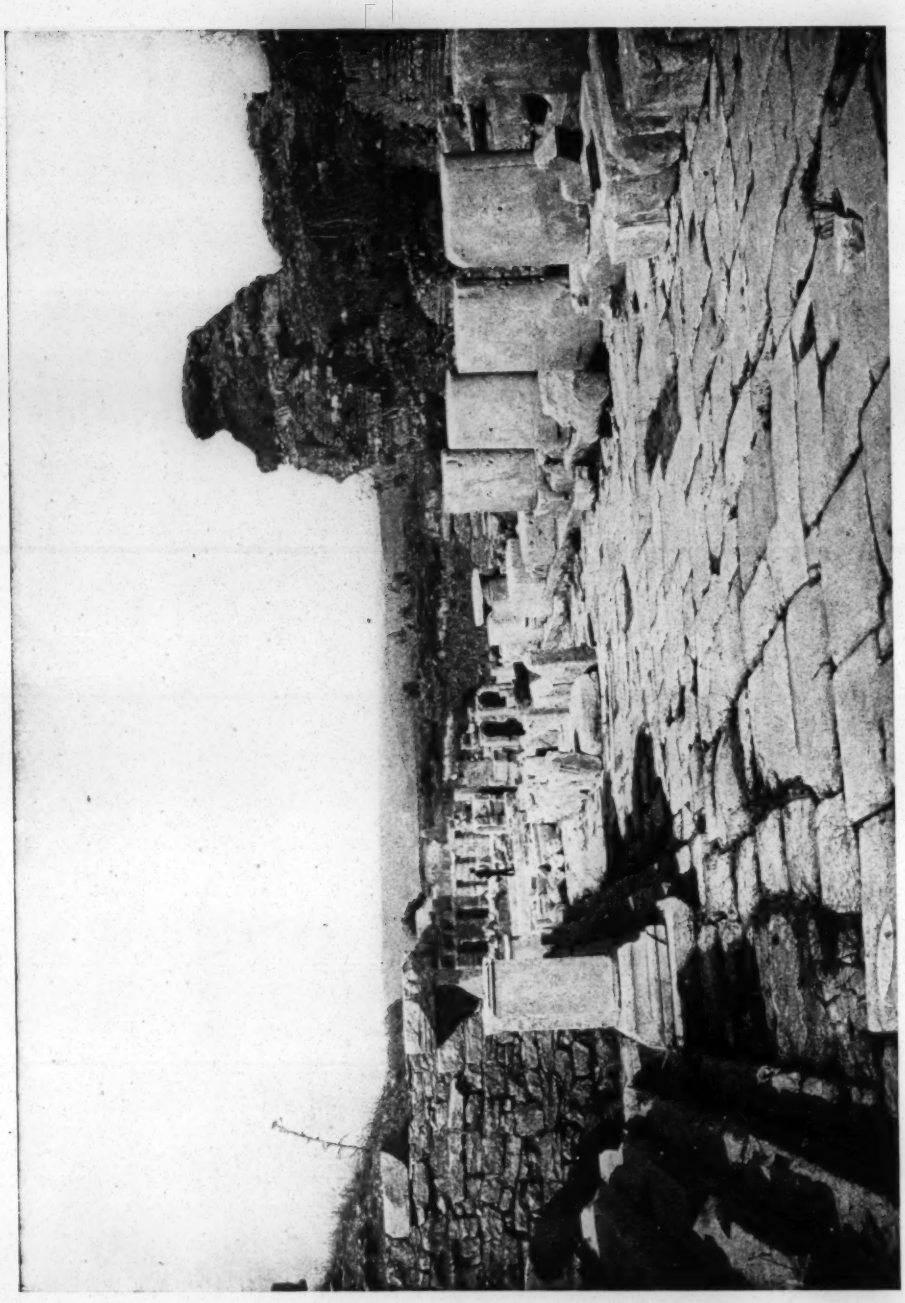
WASHING FOR GOLD: ASIA MINOR

was the only one, with the exception, perhaps, of Myus, which did not have a protected harbor near the open sea. Although today the Mediterranean has receded some considerable distance from Ephesus, yet in ancient times a canal led from an inner artificial harbor to the River Cayster, and from thence to the sea.

The old landmarks in and around this famous city stand today just as they stood when the Temple of Diana, one of the Seven Wonders of the World, shone forth in all its splendor, and the general outlines of the hills and plains are probably pretty much the same as they always have been since creation's dawn. When viewed from the railway station of Ayasalouk, the twin mountains of Prion and Lepre, with the dark ridge of Coressus in the background, present exactly the same picture, with perhaps the exception of some forestry, more or less, as the one beheld by the various peoples who have dwelt here or passed this way in every epoch of the world's history.

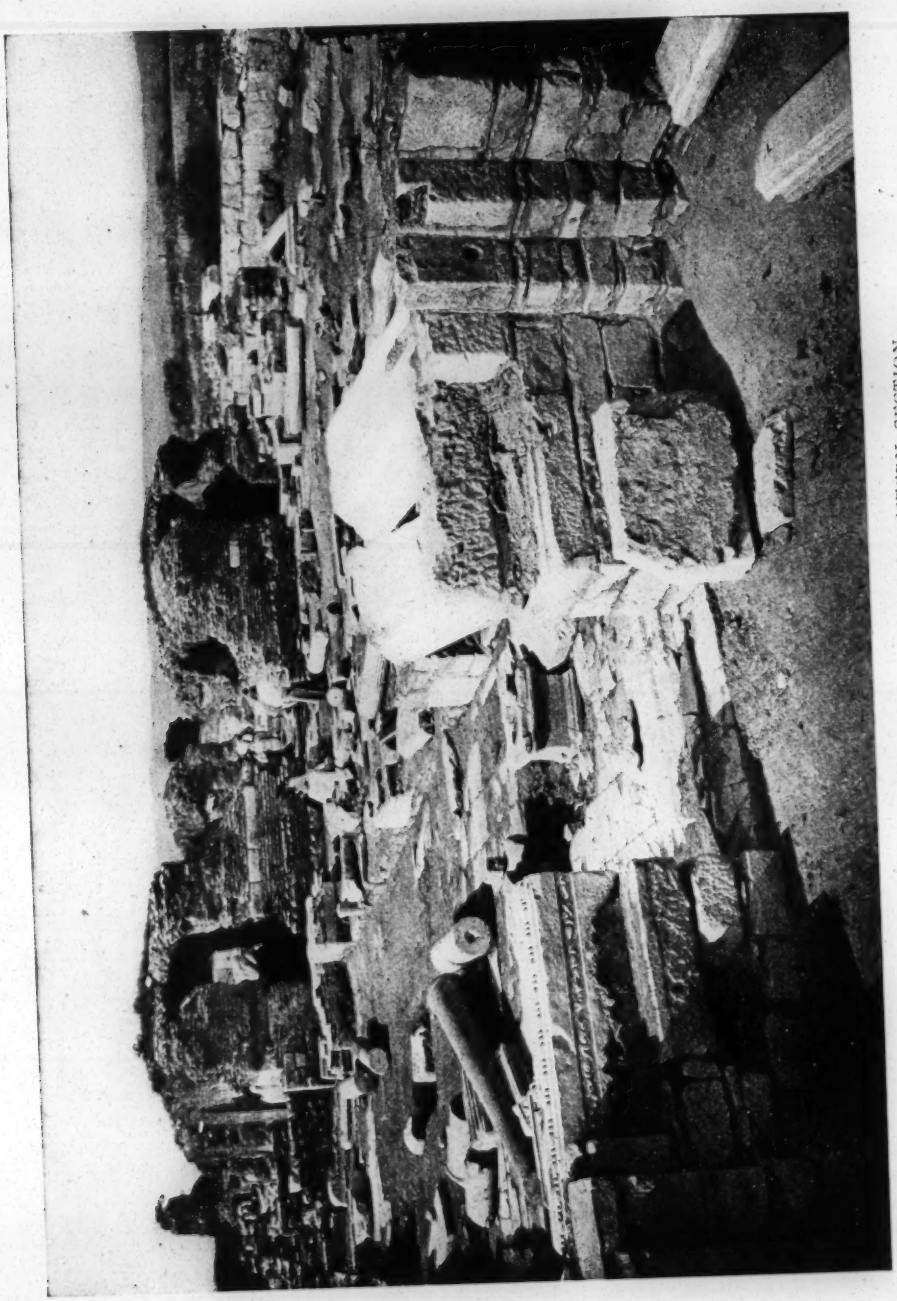
To the archæologist, historian, traveler, and last, but not least, the theologian, Ephesus offers splendid opportunities for study. Attic and Asiatic culture, Pagan, Christian, and Mohammedan religions, Ionic and Doric architecture have thrived here practically side by side.

During the past two hundred years the



EPHESUS: EXCAVATED STREET LEADING TO THE LIBRARY

On either side may be seen broken pillars of unknown buildings. Upon these pillars are inscriptions which indicate that they formed a part of some much older building in another part of Ephesus



EPHESUS: THE DOUBLE CHURCH, WESTERN SECTION

vast wilderness of ruins which mark the site of ancient Ephesus has contributed much to human knowledge, especially architecture. From 1864 to 1871 Mr J. T. Wood, after a long search, finally succeeded in discovering and excavating the Temple of Diana. Since that time others have obtained permission to dig, and especially the Austrian government, which is at present successfully engaged in excavating the double church, library, and other interesting buildings.

Today the site of the Temple of Diana, or Artemision, is nothing but a huge hole in the earth partly filled with water, which usually dries up in the summer time, but on account of the swamps all about, it is considered to be a hotbed of fever. Remnants of broken pillars and blocks of marble which served as a firm basis for the temple may be seen projecting above the water. In 1870 Mr J. T. Wood, after searching for seven years, discovered the whereabouts of the temple and made this excavation. The destruction of Diana's marvel has been exceptionally thorough. Throughout hundreds of years it was used as a marble quarry for adorning the mosques and public buildings of Constantinople and Ayasalouk.

The temple at Ephesus was one of the most remarkable structures ever reared by man. As an example of what an inexhaustible mine of treasure and relics the site of Ephesus is, I have but to state that in 1904 Mr Hogarth, an English archæologist, succeeded in making some new discoveries of note upon the site of the temple. Mr Wood, in his statement, says that he went to such depth that he found the original charcoal which was placed in layers upon the natural soil as a foundation for the temple. Mr Hogarth put up steam suction pumps in order to keep the shaft clear of water, and, piercing through this layer of charcoal, succeeded in finding the pavements of two former temples. At some considerable distance under the altar he unearthed a large stone box filled with gold coins and ivory figures dating from the time of Solomon.

The theater at Ephesus was one of the largest in Asia Minor, and had a seating capacity of 24,500 persons. It has been entirely excavated, and one may distinctly see sixty-six rows of seats one above the other. The proscenium stands today in ruins, although enough still remains preserved to give a good idea of its magnificent proportions. Handsome shafts of polished granite and marble pillars adorn the front entrance. It was in this theater that Saint Paul's preaching aroused the fanaticism of the smiths and craftsmen who made a living from the manufacture of little portable shrines or models of the Temple of Diana.

The ruins of Ephesus are so vast that it is practically impossible for anybody to adequately describe them, and while many monuments have been fully studied, yet I am not aware that anybody has ever thoroughly covered or explained the identity or history of all that is extant above the earth's surface.

What is most needed at Ephesus is a systematic excavation of the entire city, upon the same basis and thoroughness as has characterized the work of the Germans at Priene.

Ephesus was one of the twelve Ionian cities, and later became the seat of one of the Seven Churches. As the terminal point of one of the greatest highways leading into the interior of the country, the city soon rose to commercial opulence. It was the home of Heraclitus, who exerted such a powerful influence upon the earlier Grecian philosophy. It was from Ephesus that Mithridates issued that famous decree which doomed to massacre no less than one hundred and fifty thousand helpless Roman men, women, and children. The Roman emperors, with the exception perhaps of Nero, who caused the temple to be plundered, following the example of Alexander the Great, did a great deal for Ephesus in the way of rebuilding the city after earthquakes, building embankments for the Cayster, and in dredging the inner harbor. In 260 A. D. the Goths destroyed the city and temple.

Under Seljuk and Byzantine rule Ephesus gradually declined and became

deserted. The real cause of this decline, however, is probably due to the choking up of the harbor and the rise of Smyrna and Constantinople, rather than the many wars which raged about the city on land or sea. In the third and fourth centuries, however, before her decline, Ephesus attained a degree of considerable prosperity and retained a certain ascendancy in church affairs, as is shown by the fact that no less than six councils were held here. For some time during the early middle ages, Ephesus and Miletus, farther down the coast, continued to rival each other as a gateway to the commerce of the interior districts.

EPHESUS IS WITHIN EASY REACH OF THE TRAVELER

Ephesus is about forty-eight miles distant from Smyrna, and can be reached from this city in three hours. The trains are so arranged that the visitor who wished to view the ruins may have about four hours at his disposal. Anybody who takes advantage of this opportunity carries away impressions which last for a lifetime.

Yet very few people who visit Smyrna ever go to Ephesus. Only the other day (February 20, 1908) a German tourist steamer, with two hundred and fifty passengers, stopped a day in the harbor, and nobody went to Ephesus. The *Arabic*, coming from New York, calls for a day at this port every spring, and only a limited number of tourists ever go to see Ephesus. I am inclined to think that this is due to both ignorance and indifference.

Ephesus is the only ruined city in Asia Minor of any importance which may be easily and comfortably reached. I know by experience that the others can only be visited after hours, or even days, of horseback riding from the nearest railway station, at considerable expense, hardships, and constant danger from brigands. In many districts the government flatly refuses to permit the traveler to go, even when guarded by mounted police.

It therefore seems a sin for any one to come to this interesting port without taking advantage of the opportunity of seeing the only really accessible and one of the most important of the ruined ancient cities which abound in Asia Minor.

MAGNESIA

At one time Magnesia must have surpassed in magnificence and splendor all the other towns of Ionia, Lydia, and Phrygia, for the simple reason that the Persian Satrap for many years gave this city the preference as his residence. Such, at least, is the opinion of many, and an inspection of the ruins certainly give this impression. The city was built near the base of Mount Thorax, and the walls may still be distinctly traced almost the entire way around the site. The ruins of all the public buildings show that a snow-white marble was used, the quarries of which existed in Mount Pactyas, the same source, it is claimed, which supplied the Ephesians with the necessary material for many of their monumental structures.

A band of some fifty gipsies have squatted among the ruins, and they earn a living by weaving baskets. At least the women earn the living, while the men spend the day in smoking cigarettes and drinking coffee. The straw huts of these people are not only filthy in the extreme, but they are also the haunts of every kind of vermin. From one of the foremost cities in Asia Minor to a wretched gipsy village is a steep descent, and the contrast is complete. Of Magnesia, as of Babylon, the denunciation is fulfilled:

"I shall make it a possession for the bittern; and pools of water. . . . The cormorant and the bittern shall possess it; the owl also and the raven shall dwell in it; and he shall stretch out upon it the line of confusion and the stones of emptiness."

As if to prove to me how literally this is true, as I approached the gymnasium in the plain a startled owl rose up from the "stones of emptiness" and took refuge in a deep crack in the wall. Pools, too, have taken possession of the ancient site, and the winding Lethæus seeks its way over broken pillars and marble fragments

STREET IN MAGNESIA: ROMAN BARRACKS ON EITHER SIDE

among places where the reed and cat-tail grow to the near Mæander.

Unlike Ephesus, Hierapolis, and Laodicea, Magnesia is not a place where one cares long to tarry by the way. There hangs over the spot a spell which is fraught with desolation, and fever lingers in the nooks of ruin. And yet there once was life in that inanimate mass, wherein culture, art, and learning sat enthroned. If these scattered heaps could but tell their stories, and fill up the gap of centuries! Sad havoc time has with that city made, and the intervening years since last it was the abode of man have cast over it a cloud of gloom and mystery.

The peasants, Turk and Greek alike, shun the site with superstitious dread, for from that quagmire ghost-like phantoms rise at midnight and hover about the temple. Such, at least, are the stories told by the country people, and as they are an exceedingly superstitious lot, it is easy to account for their fears concerning the ruins of Magnesia. And even the stranger is glad when he has turned his back forever upon this scene of desolation. Only the gipsy seems to thrive near it.

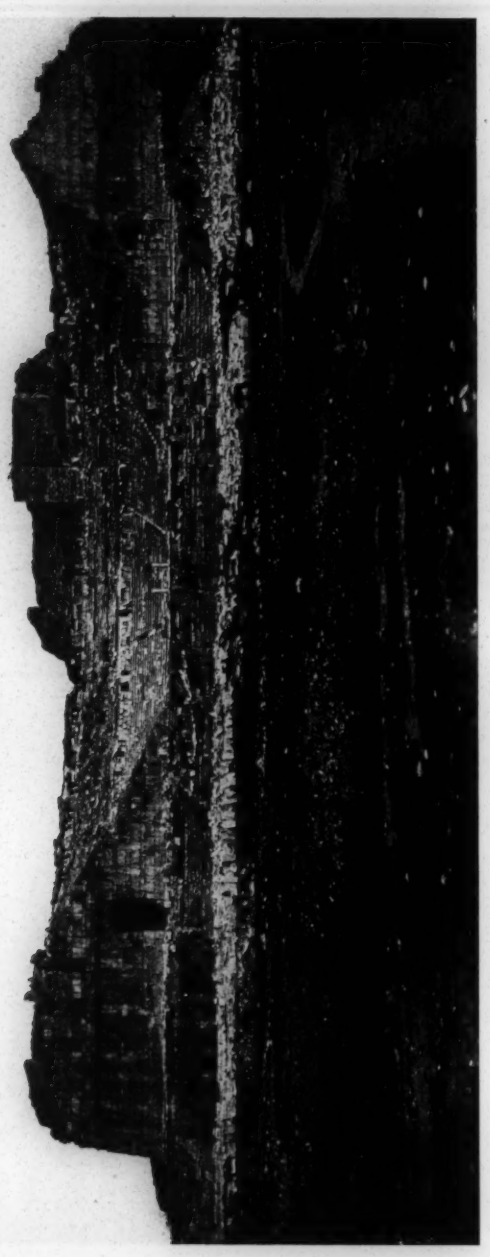
MILETUS

Ancient Miletus stood at the point where the River Mæander flowed into the sea, and, like Ephesus and Smyrna, it formed one of the chief gateways of communication between Greece and Rome with the interior of Asia Minor. So favorable was the situation of the city and such the genius and energy of the people that the commerce of Miletus soon extended to remote regions; even in the earliest days of Ionian history the navigators of this town, in quest of trade, sought the Euxine Sea, the Propontis, Egypt, and the confines of Greece and Italy.

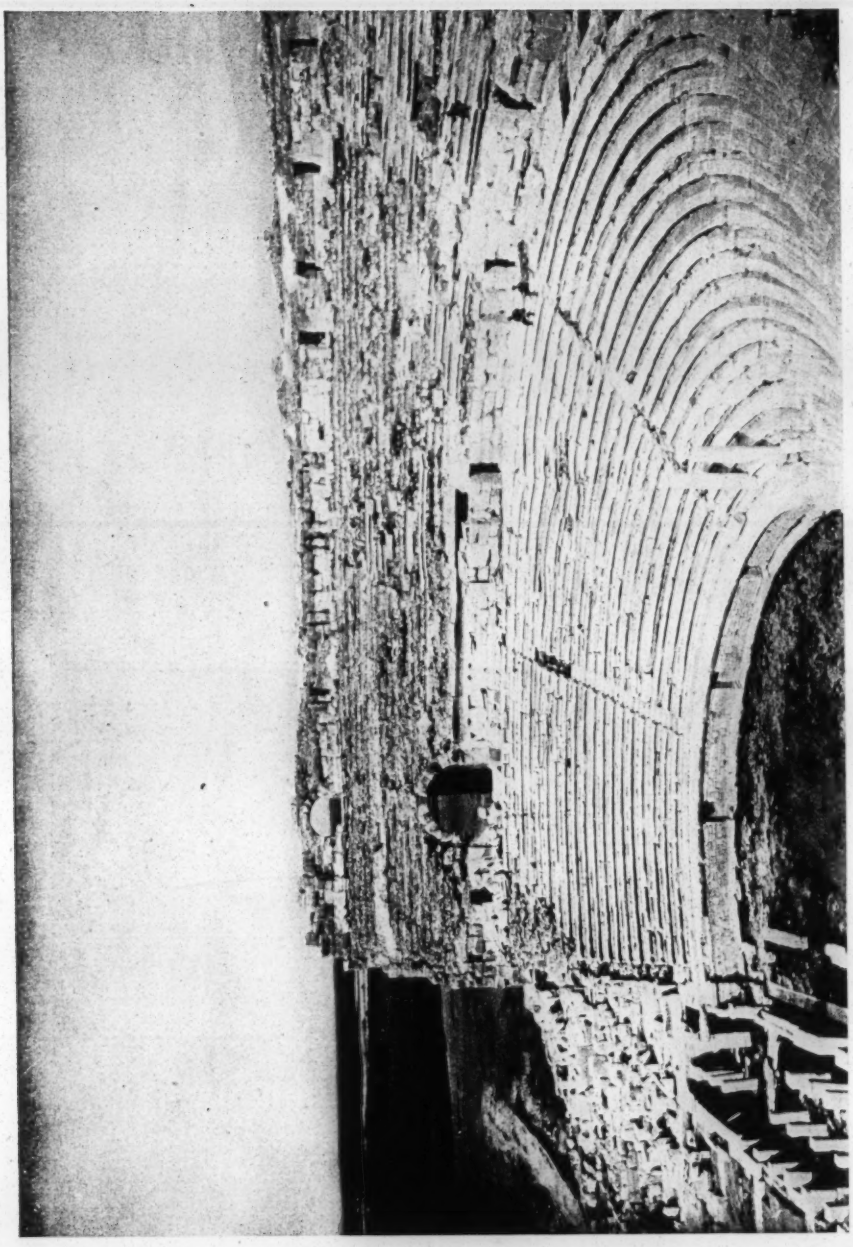
Merchants and travelers from abroad were in turn eager to visit its shores and enjoy the splendid hospitality of its citizens. It became celebrated for luxury, art, and learning, and there grew up within its precincts a great school of historians and philosophers. Its sons were renowned in war, and as the head of the Ionian Union it bore the brunt of the onslaughts of Darius and Alexander. The women were noted for their beauty and wit. The fame of its theater and temples were proverbial in the ancient world.

One of the finest sights in the whole of Asia Minor is the gigantic theater of Miletus. Those who admire the Coliseum at Rome should go to Miletus and see its equal. Unquestionably nothing like it in the shape of a theater exists anywhere else in the world. The length of the stage alone is 140 meters (459.31 feet) and the upper semicircle of seats is no less than one-half a kilometer (1640.41 feet) in semi-circumference. Immense staircases ascend up through the entrances of the wings and sides, while huge arched corridors lead to the stage, pit, and upper galleries. We have before us here one of the grandest heritages of antiquity. The storms of war which have burst and spent themselves upon this theater during the past two thousand five hundred years have have left it scarred and weather-beaten, to be sure, yet only the more solemn and imposing on that account.

In Miletus philosophic thought and culture first took root, and the Ionian school, if I may so term it, maintained an intellectual supremacy over the world at large for a period of more than one thousand years. The dominating philosophy of the ancient world was the Grecian, to which the Ionian cities contributed an important part. It began in the sixth century B. C. and ended in the sixth century A. D. It had its birth in the same period as the ascendancy of the Persian Empire, and its last school ceased to exist with the downfall of the western Roman Empire. A peculiar fate decreed that some of the first Grecian philosophers were compelled to flee from Persian persecution when the storm clouds began to gather about the Ionian cities, and after the lapse of a thousand years the last of the philosophers of Greece were forced to seek refuge with the Persian kings after an edict of a Christian emperor evicted them from Athens.

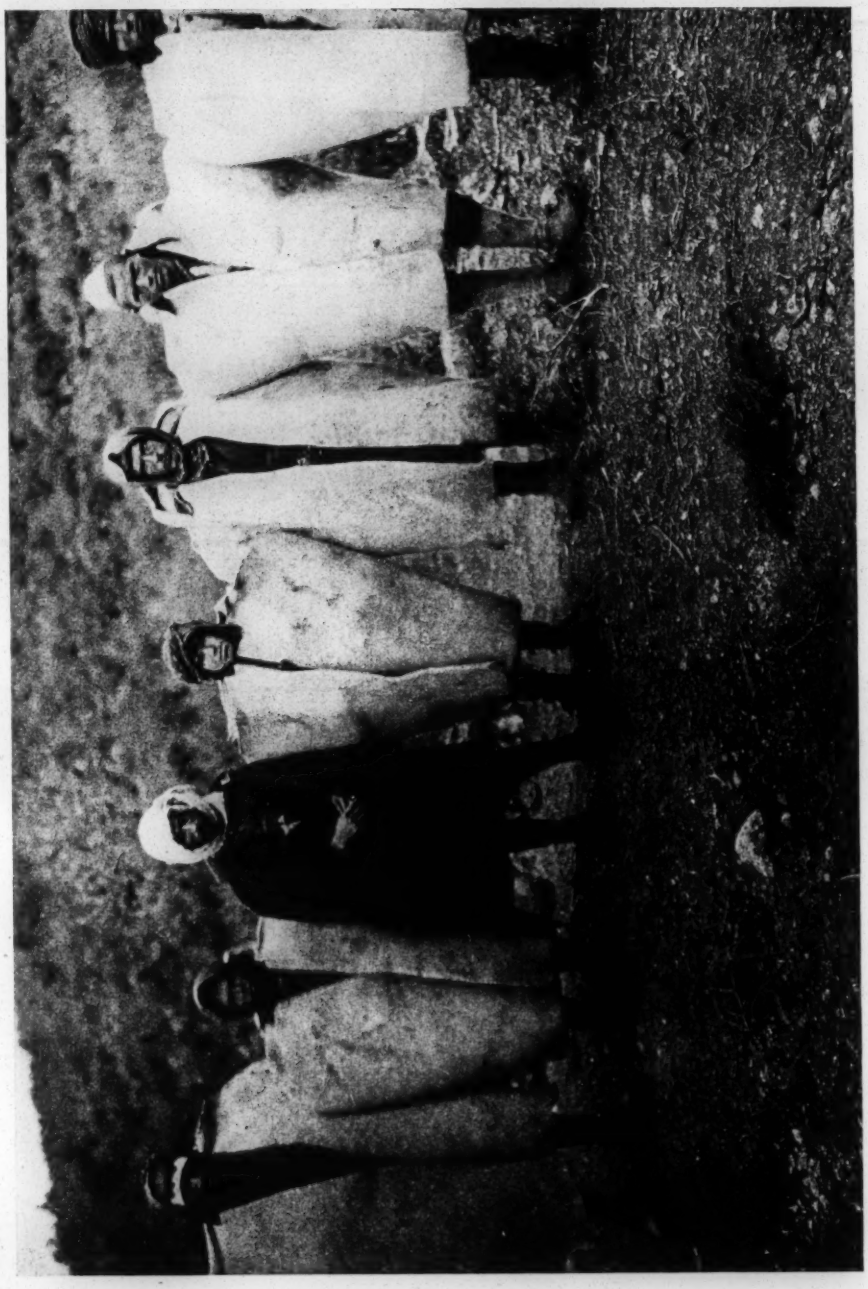


THE GREAT THEATER AT MILETUS, BELIEVED BY MANY TO BE THE EQUAL OF THE COLISEUM AT ROME
(SEE PAGE 849)

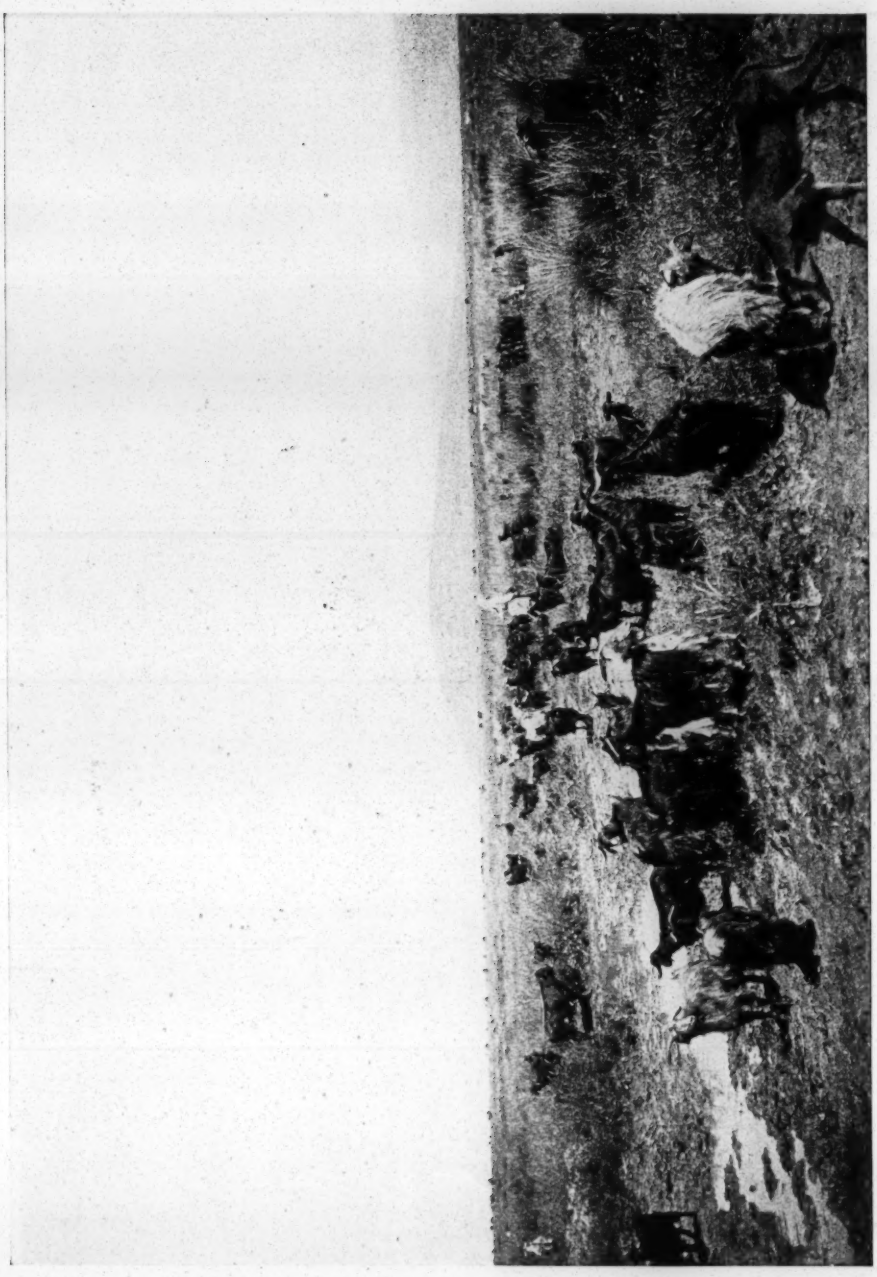


ONE END OF THE THEATER AT MILETUS

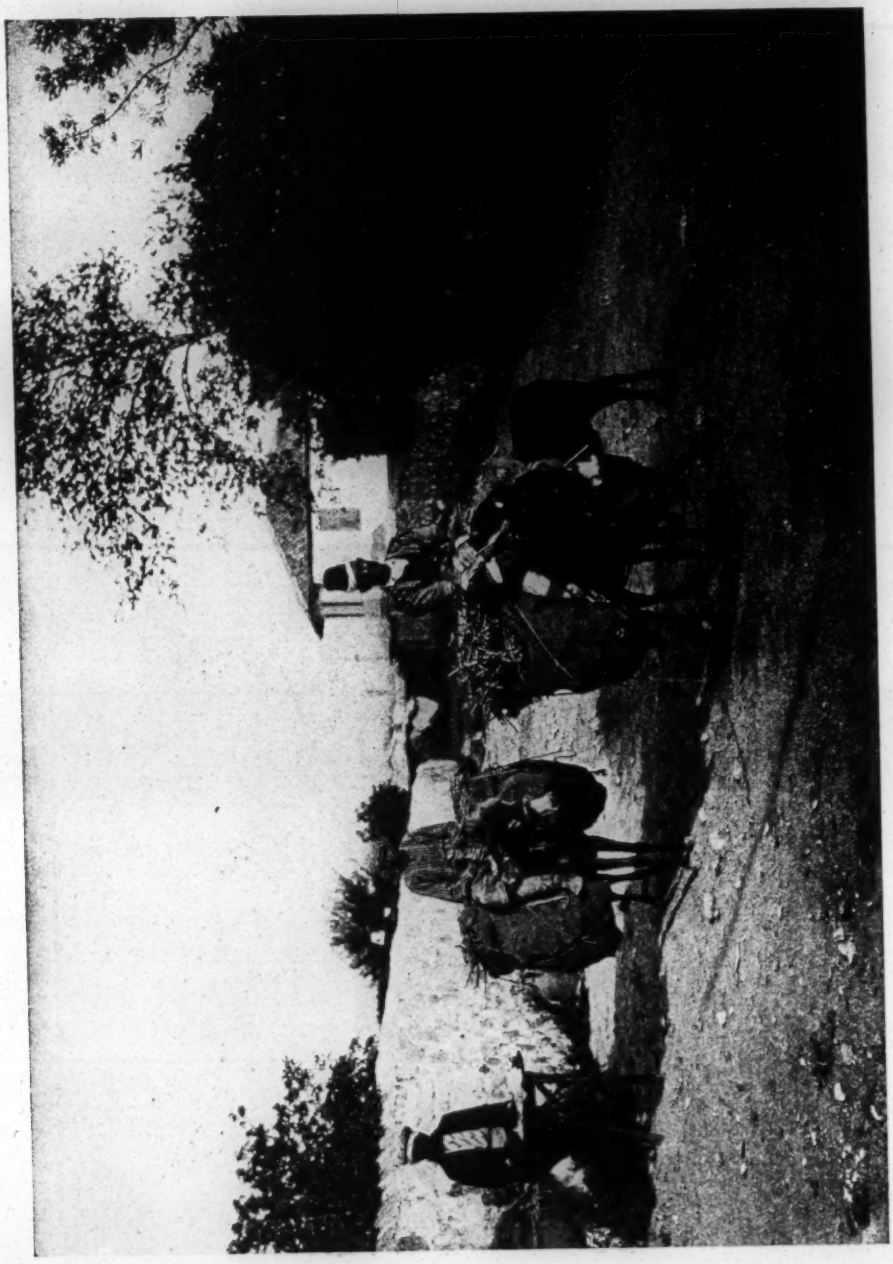
A WELL-PRESERVED TOMB IN THE NECROPOLIS OF COLOPHON. TYPE OF TURKISH MOUNTED POLICE



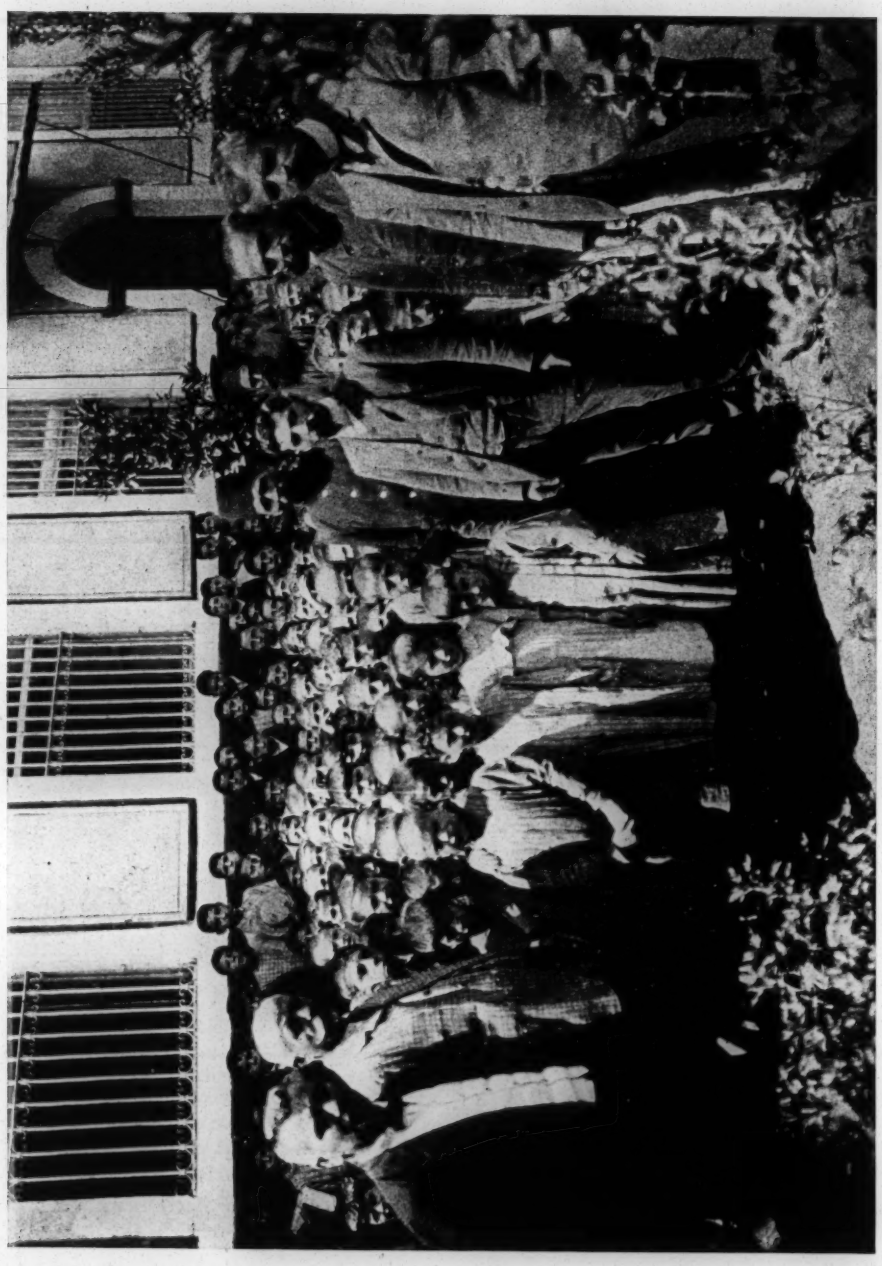
TYPE OF GREEK SHEPHERD NEAR COLOPHON



HERD OF GOATS ON A FARM NEAR ANCIENT COLOPHON



THE WAY LICORICE ROOT IS BROUGHT TO A STATION IN THE MÆANDER VALLEY



GREEK SCHOOL CHILDREN AND THEIR TEACHERS IN AIDIN, INTERIOR OF ASIA MINOR

There is still much to be excavated at Miletus. The work is in good hands, and in a few years Mr Theodore Wiegand, working in behalf of the Berlin Museum, will have laid bare the entire city.

PRIENE

Priene, thanks to the industry and energy of the Germans, is now completely excavated, something like eighty rectangular squares having been brought to the light of day. As the visitor at Pompeii sees before him an almost perfect Roman provincial town of the time of Pliny, so at Priene one is enabled to look at an Ionic city of the days of Alexander. The Germans have completed a wonderful work at Priene. The same thoroughness and workmanship with which they build a ship may clearly be seen in the skillful manner in which this city was brought to the light of day.

The chief interest in Priene is to be found in the private houses, which date from the fourth century B. C. The most of these houses show that they were occupied by people accustomed to luxury and art. There was a courtyard in the middle, as in most of the houses in the Orient today, upon which opened halls and chambers. In some of them were several sleeping rooms, and many had a second story. The walls of the first story in many houses are still standing, and decorations of various kinds may still be seen. Some idea will be given of the size of many houses when I state that they are 50 by 80 feet. The interior furnishings were also on a scale in keeping with the exterior proportions of the dwellings.

The houses in the coast cities of Asia Minor, even three thousand years ago, were fitted out with the most sumptuous tables, chairs, beds, and carpets. In other words, Hellenic genius and love of art was not only applied in rearing inimitable temples and statues, but the sense of the beautiful was also carried into the home.

Priene was a great religious center, and this accounts for the number and beauty of the temples.

It is not known when Priene was altogether abandoned by its inhabitants, but it is probable that the city was so thoroughly destroyed by an earthquake that its citizens retired to Ephesus and Smyrna.

COLOPHON

Colophon claimed to be the birthplace of Homer. About 665 years B. C. it was one of the most important cities in the Ionian Union, and celebrated far and wide for opulence and luxury. In 287 B. C. King Lysimachus removed a part of the inhabitants to Ephesus. With the exception of two or three wars, Colophon seems to have always had a pretty peaceful time of it, and during six hundred years of its history the inhabitants successfully pursued the arts of commerce and agriculture.

The horses of Colophon were the most noted in Asia Minor, and the forests grown upon the hills above the city were the special pride of the people. One might almost say that so much attention was paid by these people to their forests that the effects of the same, in this particular district, are felt to this day; for of all the trees I have thus far seen in the Vilayet of Smyrna there is nothing to compare with the magnificent pines which grow in the region of old Colophon—a pitiful remnant of the vast forests which must once have skirted the whole coast of this country. That the climate and soil of this section are wonderfully adapted to the production of timber is amply demonstrated by the presence of large quantities of edible mushrooms and other fungi usually unknown to dry atmospheres.

Colophon is surrounded by a great wall, which was constructed from the immense boulders of the surrounding hills. These rocks were chiseled into large squares and placed one upon the other without the use of cement. None of the ruins about Colophon are of Roman origin. Everything visible to the eye belongs to the very earliest period of Colophon's history.

The ruins of Colophon lie between two exceedingly picturesque Turkish villages. The artist who, through the encroachments of modern industrial enterprises, no longer finds in New England or elsewhere the old mill on the floss, the house with the seven gables, or the romantic wayside inn should pack up his easel and brushes and come to Asiatic Turkey. Here he will find subjects for his talents such as few other countries possess.

In the villages of Deirmendere and Trantsha, near Colophon, for example, he will find Turkish life and customs at their purest—such as they have ever been during the past six hundred years: Houses constructed of mud bricks with straw roofs; latticed windows, from behind which peer the encaged females; coffee-houses, wherein sit the turbaned Turk cross-legged, listlessly smoking a nargileh or sipping coffee in Oriental indolence; labyrinthian streets shaded by plane and poplar trees, with stately camels and dwarfish donkeys; majestic groves of cypresses, and neglected cemeteries studded with a wilderness of irregular headstones; on the minaret of the near-by mosque there is the never-failing stork; then there are brooks spanned by quaint bridges; around these villages there are green meadows enclosed by winding lanes; and beyond all these, in the background, rise up the rents of ruin—old Colophon.

It is a steep climb to the necropolis of Colophon, but the effort will be rewarded by the sight of many tombs, all of which, however, have been opened. Some of these tombs are built in the shape of square towers, but the greater part are either round or elliptical in nature, very similar in appearance to the tomb of Tantalus at old Smyrna, and evidently dating from about the same period. Today the necropolis is covered by a thick growth of tall pines, and the tombs must be searched for among the trees. At one of these large tombs the guide given me by Mr Van Lennep explained that when the interior of the tomb was opened two skeletons were found lying side by side, one of a man and the other of a woman, evidently husband and wife. The man was lying on his back and the woman on her face. Among the conjectures offered in explanation of this, one of the zaptiehs advanced the theory that the woman was buried face downward, so that the good lady could not talk too much in her sleep.

On descending from the acropolis we were met near the village of Deirmendere by a dignified Turk, who invited us to become his guest to the extent of having some coffee. I cheerfully accepted his hospitality and our host escorted us through the village, striding on before with an empty double-barreled shot-gun over his shoulder. His house consisted of two stories, one room above and one below, with a somewhat shaky stairway leading to the one above. Arriving there, we were informed that we could either take coffee in the yard below or in the room upstairs, which belonged to the ladies of the diminutive harem.

Upon our choosing to drink coffee upstairs, we were informed that the women must first be removed, and as we ascended the rickety stairs four of them were brought out on the small veranda and placed side by side with their veiled faces toward the wall while we filed past. For the first time I found myself in the dwelling-place of a village Turk of the lower class. There were no chairs in the room; two mattresses stretched on either side of a lighted fireplace were covered with Turkish rugs of the cheaper quality. Reclining upon these floor divans, we watched our host prepare the coffee.

It is a custom of the country mounted police to surrender their rifles to their host immediately upon entering the household, and in this instance our bodyguards laid their weapons on the floor. I learned upon this occasion that it is also the custom of the police, in this part of the country, to carry unloaded rifles—a circumstance which does not increase their efficiency, if they should be called upon to defend the stranger against brigands.

* To be concluded in the January, 1909, number.

OUR NEGLECTED SOUTHERN COAST

A Cruise of the Carnegie Institution Yacht "Physalia"

By Alfred Goldsborough Mayer

Director of the Department of Marine Biology of the Carnegie Institution of Washington

With Photographs by the Author

NO part of our Atlantic coast is less generally known than that which stretches from the mouth of Chesapeake Bay to northern Florida.

The coastwise steamships shun the proximity of the treacherous sands, and the curiosity of the average passenger respecting the shore is more than satisfied by a glance along the long, low line of dull gray strand trending in hopeless monotony to the obliteration of the horizon. Indeed, so low is this coast that Mount Cornelia, north of Saint Johns River, Florida, which is only 63 feet in height, is nevertheless the most elevated point between Norfolk, Virginia, and Key West, Florida.

One's interest in this coast develops only upon prolonged association with it, for there is in the vast expanse of its lonely swamp lands a mysterious attraction which, like a mirage, leads us onward though but to the allurement of our hope.

Exploration is greatly facilitated by the countless number of tidal creeks and estuaries which meander tortuously through the grassy flats, and by extensive sounds, such as those of Albemarle, Pamlico, Core, and Bogue, whose calm waters lie protected from the Atlantic waves behind narrow barriers of sand dunes.

Thus it is that with a vessel drawing five feet one may pursue a winding way through these creeks and sounds down nearly the entire length of this coast, and only occasionally be obliged to put out to sea. Indeed, the only considerable ocean passage is that between Beaufort, North Carolina, and Charleston.

Upon such an exploration one passes from the region of chestnuts and beeches, through the pine barrens of the Carolinas, to the palmetto groves of northern Florida; and thus from the temperate regions to the border lands of the tropics.

Nor is this region altogether one of desolate flats of swamp grass bending rhythmically to the breeze. It may even be beautiful, as where in North Carolina the Pasquotank River wanders through the avenues of an over-arching forest. Here, in the shadows of the fern thickets, under the canopy of the woods, is the haunt of the bittern, the heron, and the mink, in a region where primeval nature still knows naught of man's encroachment.

At Norfolk, Virginia, we leave behind us the hardwood of the Chesapeake region and enter a land where the tall, straight trunks of pine trees stand in stately monotony in every view. The trees keep a respectful distance apart, so that the noonday sun penetrates to their roots and falls upon the coarse grasses which cover this forest land. Here and there one sees a young pine tree resembling a green fox-tail thrust upright into the ground.

From northern Florida southward the ever-present bayonet-palm usurps the space under the pine trees. Its scaly, knob-like trunks interlace everywhere over the sandy soil, and only its low-lying clusters of serrated leaves thrust upward to the light. No forests are more uninteresting than are the pine barrens infested by the impenetrable thickets of this bayonet-palm. The hard yellow green of its bristling leaves obtrudes it-

YOUNG LOGGERHEAD TURTLES JUST AFTER HATCHING: LOGGERHEAD KEY, FLORIDA

self everywhere in dull uniform ugliness, a fit covering for the hideous rattlesnake.

Far different are the cypress, which cluster around the border of nearly every fresh water pool in the Carolina-Florida region. Their tall trunks stand like temple columns under the dark shade. Like huge misshapen fingers, the so-called "knees" of the cypress point upward above the stagnant water darkened by their exudations. Here, in the silent gloom, live the water moccasin, the vulture, and the alligator.

The live-oak, that noblest tree of our southern forests, flourishes from the southern parts of North Carolina southward. Its long, gnarled limbs, sweeping outward in contorted curves, present an un-oaklike appearance, but the relationship of the tree is seen in the wavy margins of its small, dark leaves and in the minute acorns. Southward from South Carolina the limbs of the live-oaks are infested by that beard-like plant, the "spanish moss," which, by the way, is not a moss, but a plant allied somewhat remotely to the pineapple.

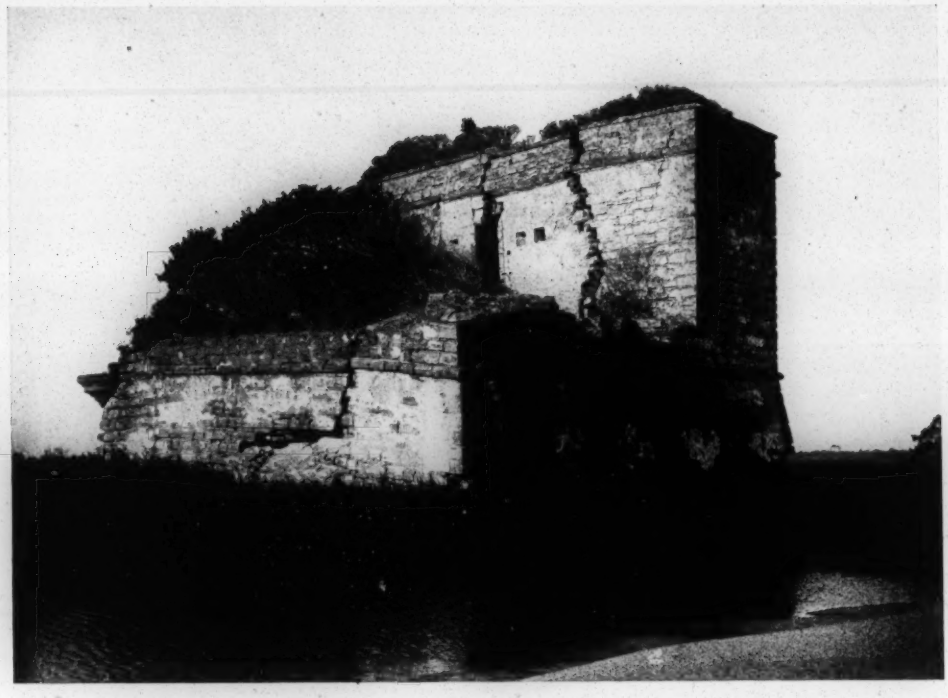
Under these live-oaks we are in a somber region of twilight, where the boughs seem to whisper as their burden of drooping moss swings to and fro. Such is the canopy which a reverent nature has reared over the stately cemeteries where sleep those whose spirits ruled in the bygone days of the old South, when our nation still fostered a feudal aristocracy.

In the heart of the live-oak region lies quaint old Charleston, sleeping in the memory of its brave and eventful past. There is a decidedly French tone to its architecture, for here the Huguenot was dominant. Here the cultured spirit of colonial days still lingers, although the fine old walls are crumbling, and the delicate hue of lichens relieves the uniformity of coloring which they displayed in more

THE MOST NORTHERLY GROVE OF PALMETTOES, SMITH ISLAND, CAPE FEAR, NORTH CAROLINA

LIVE OAK AT SOUTHPORT, NORTH CAROLINA

THE SEA DESTROYING THE FOREST: COAST OF FLORIDA

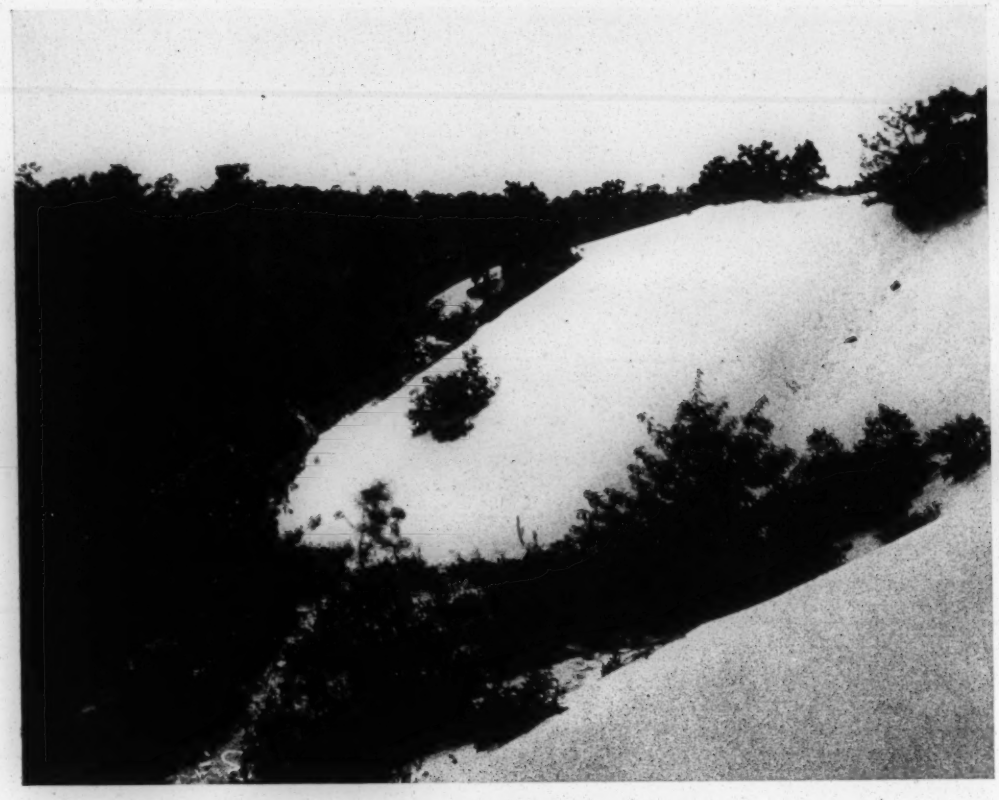


THE OLD SPANISH FORT "MATAVEA," MATANZAS INLET, FLORIDA

prosperous days. Everywhere are seen the mended crevices that are reminders of the days of earthquake a quarter of a century ago. Tiers of latticed verandas are the rule, and the roofs bear heavy old-fashioned tiles. There is a mournful dignity in the quiet city, living even now in the atmosphere of a time long gone; and nowhere is this felt more deeply than when in the moonlight one sees the line of the fine old houses that front the battery wall and set their faces toward the broad expanse of the harbor. The moon's rays glint along the barrels of old cannon that speak mutely of an historic past, and darkly outlined against the seaward horizon above the shimmering ripples of the bay lies old Fort Sumter. The grass may grow between the cobblestones of the streets along the water front, and the vultures may flock each morning to the ancient market roof; but do not these things comport with the repose of that patrician life which only the old South knew and the charmed memory of which still lingers here in Charleston, the aristocrat of American cities?

In our South the tangible things around us keep fresh the memory of things the North has long since forgotten: The lone chimney of the farmhouse burned in the civil war, the deserted mansion crumbling to decay, and under the live-oaks the many graves of those who died in the lost cause.

The palmetto is the most distinctive, but by no means the most attractive, tree of the South Carolina-Florida region. The most northerly natural grove of this palm is found close by the side of the beach of Cape Fear, at the southernmost extremity of North Carolina; but in northern Florida it constitutes whole forests and grows even upon the sandy beaches within a few feet of the breakers. Here, in combination with the yucca, the holly, and the cactus, it forms bristling thickets whose spiny leaves bid defiance to all intruders. Farther inland, however, along the moist



SAND DUNE OVERWHELMING A FOREST

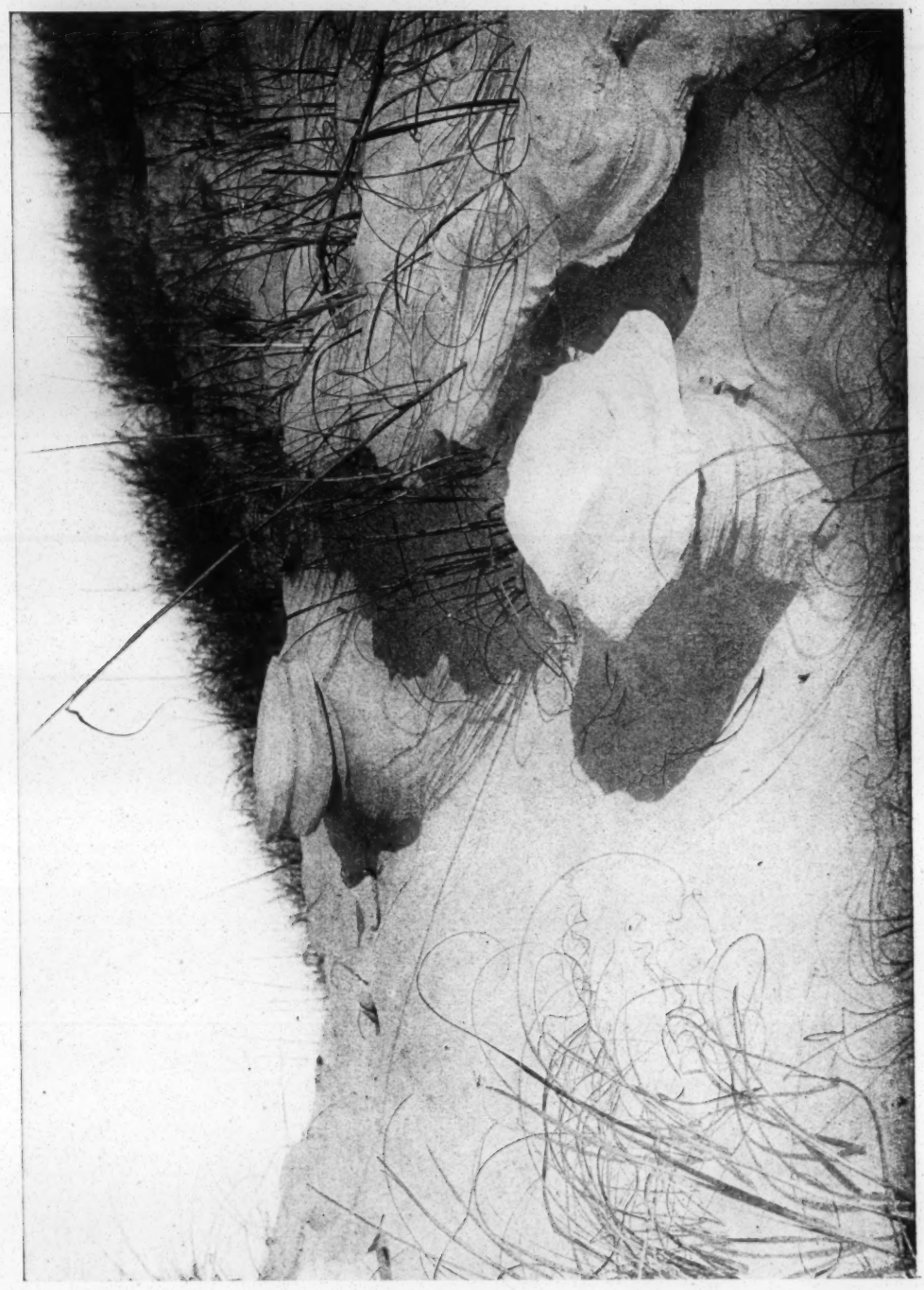
banks of Florida streams, the palmetto alone is dominant, and between the columns of its clumsy trunks one sees the dark green of the magnolia.

As we have seen, our southern seacoast consists of a long line of shifting sand-dunes, but none of these are so large or so attractive as are those near Provincetown, Cape Cod.

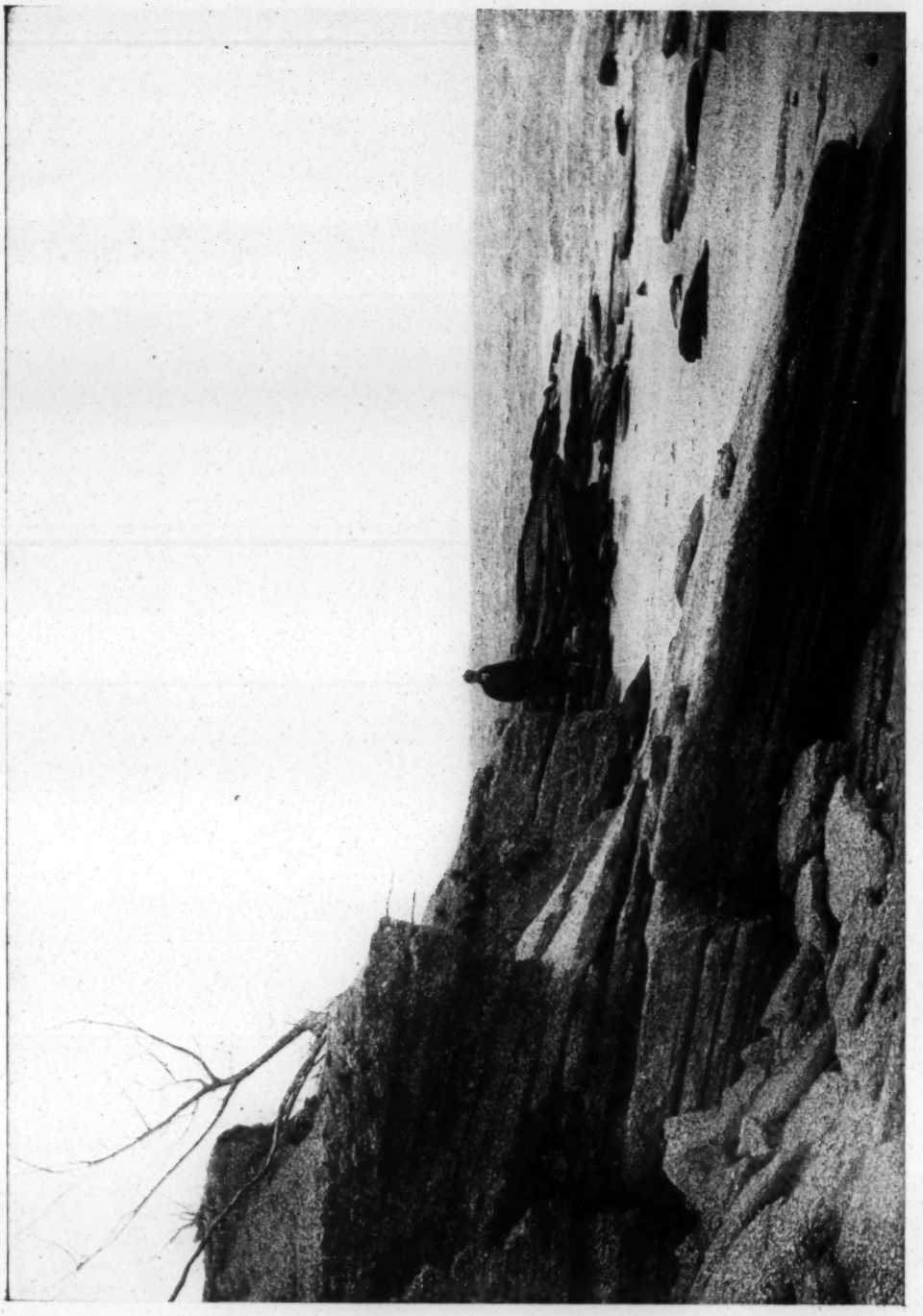
All phases in the formation and disappearance of sand-dunes may be observed along our southern beaches. Here the wind-blown sand may be seen engulfing the forest, and in another place the gaunt, gray trunks of the dead trees are again exposed to view, when the dune which overwhelmed them has itself begun to yield to the incessant breeze. The shore line fluctuates, and often the ocean may encroach upon and destroy the forest, or great flats of newly laid-down sand may stretch seaward from the old beach line. Ocean currents produce profound effects in shifting the loose sands, and Capes Hatteras and Canaveral are great cuspate forelands thrown up by conflicting shore currents.

The sand of the beaches consists mainly of broken granules of silex, the insoluble remnant of ancient granite rocks which have long since yielded to the incessant churning of the surf and to the even more potent disintegrating effects of rain, frost, and sea water.

All who visit Anastasia Island, opposite Saint Augustine, Florida, become familiar with the peculiar shell rock called "coquina," which furnished the stone for the construction of the fine old Spanish stronghold now called Fort Marion. This coquina is formed from broken fragments of sea shells which have been



SAND-SHAPES SCULPTURED BY THE WIND: FERNANDINA, FLORIDA



LEDGES OF COQUINA ROCK AT ANASTASIA ISLAND, FLORIDA (SEE PAGE 868)

tossed up upon the shore by winds and waves, and then have become cemented one to another, forming a coherent mass. This cementing of the originally separate bits of shell is due to the dissolving power which rain or sea water has for calcium carbonate, especially if the water be more or less impregnated with carbon dioxide, due to the decomposition of decaying vegetable or animal matter. Water thus charged dissolves the limestone of the shells, and then, if the solution evaporates on drying, the limestone is precipitated, thus fastening the shells together by means of little bridges of lime rock. So hard does this rock finally become that its surface rings with an almost metallic sound when struck with a hammer, and as long as frost does not affect it, weathering only serves to harden it still further. So well does this rock maintain itself in a warm climate that one may still discern the details of the coat of arms of Spain cut into the rock above the sally-port of Fort Marion at Saint Augustine.

We first meet with ledges of coquina rock on the shore of North Carolina, one of the most northerly being on the beach at the old Confederate Fort Fisher, north of Cape Fear. The shells here are largely mixed with silicious sand, but at Anastasia, Florida, the coquina is composed almost exclusively of shells. All of the rocky islands of the Bahamas are built up of fragments of sea shells and other limestone remnants of marine animals or plants. These fragments have been pounded into fine sand by the surf, and were then blown inland to be cemented by the rain water into rock. This wind, or æolian, rock, as it is called, forms hills fully 250 feet in height. A most interesting cut through it has been made at the "Queens Stairway," in Nassau, Bahamas, where the side walls reveal the effects of every wind-storm of the past in forming the rock.

Among the historic relics along our coast, none are more remarkable than the old Spanish fort at Saint Augustine, Florida, now inappropriately called "Fort Marion." It is the only pretentious mediæval building in North America, and, saving for the old guns which have unfortunately been removed, it is in a nearly perfect state of preservation, with moat, turrets, portcullis, sally-port, and crenated parapet, now gray with moss and lichens. Once it was Spain's proudest stronghold in North America, and although the Spanish king complained that for less cost he might have had a fort of solid silver, yet its worth was proven when in 1741 Oglethorpe's defeated forces retreated from its walls.

Much of the native charm of old Fort Marion has been destroyed through its accessibility to crowds of tourists; indeed, it is one of the few really interesting places along our southern coast which is easily reached.

Smaller than Fort Marion, but fascinating in its isolation, is the Spanish fortress of Matanca, near Matanzas Inlet, eighteen miles south of Saint Augustine. It stands upon the banks of a tidal creek in the midst of a desolate swamp. The settling of the old fort has riven the massive walls from base to summit. Trees cluster over the deserted parapet, where old cannon lie overthrown and covered by a tangle of vegetation. Owls and bats live in the rooms once occupied by its Spanish masters; yet in times gone by the old fort appears to have bravely withstood the shock of battle, for many fragments of iron shrapnel may be found buried within its coquina walls—possibly relics of Oglethorpe's unsuccessful siege.

Across the creek, by the side of this ancient fort, is the beach where, in 1565, Don Pedro Menendez de Aviles broke his promise of quarter to the captured French Huguenots and murdered Jean Ribault and 400 of his followers. For this dastardly act he was rewarded by the Spanish king by the title of "Marquis of Florida." The story is fascinatingly told by Parkman in his "Pioneers of France in the New World."

Apart from the cities of Charleston, Georgetown, and Savannah, which abound in reminders of the historic past, there are many other interesting places

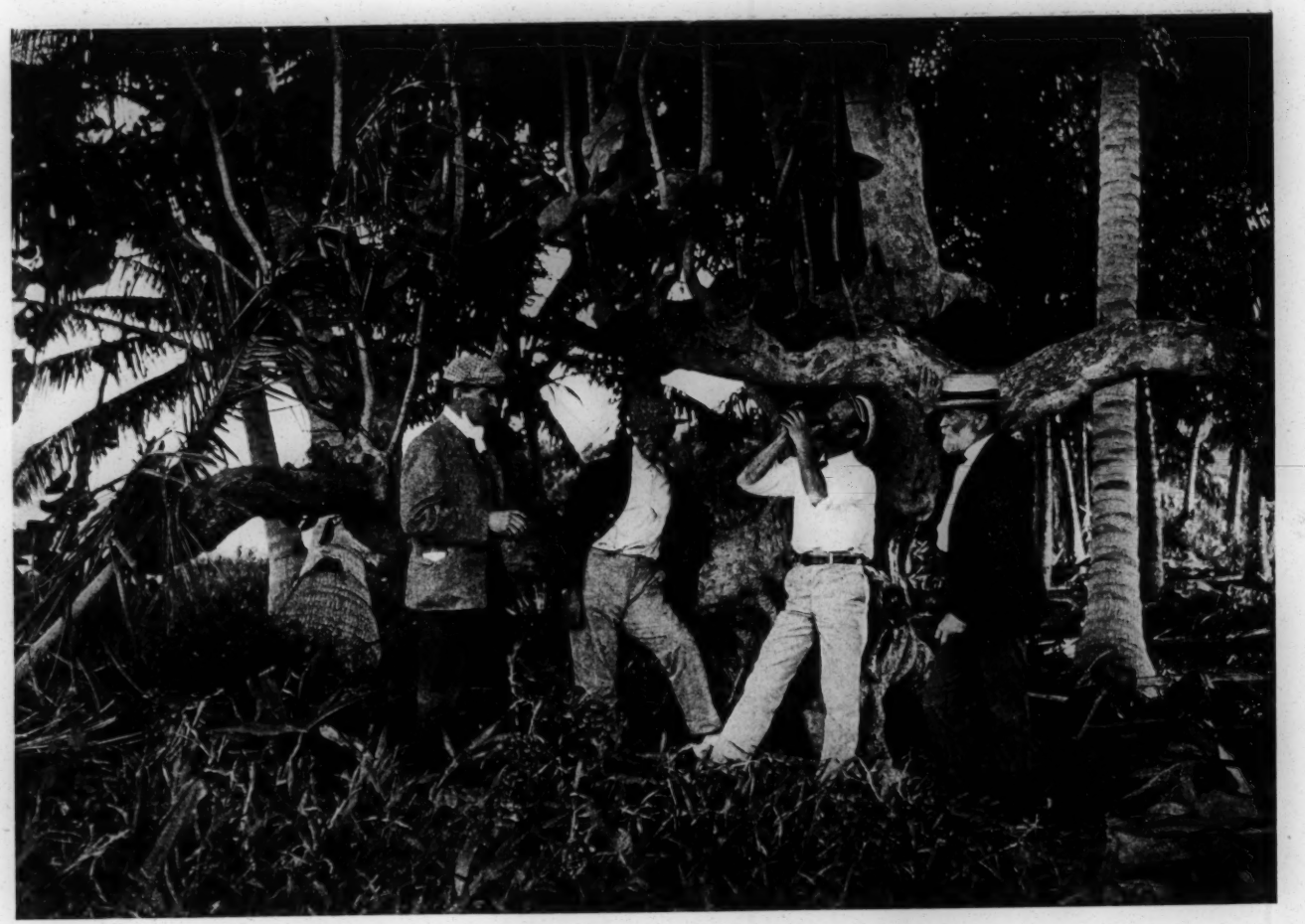


Photo by Prof. Craig, of Cornell University

AN OLD SEAGRAPE ON ELLIOTT'S KEY, FLORIDA

The trunk has been twisted and battered by floating wreckage. Cocoanut palms in the background. The cocoanuts to the left have been hacked with the axe to make them bear. One gentleman in photo is drinking the water in a green cocoanut. The ocean is only a few feet distant.

A "NORTHER" ON THE FLORIDA COAST

along the line of the coast. Such are the strongholds of the civil war; among them Fort Fisher, the attack upon which is so interestingly described by Admiral Evans in his "Sailor's Log." There is also the beach at North Island, South Carolina, where, on the night of April 24, 1777, Lafayette landed in America.

Our southern coast is a region of sunshine free from the coastal fogs that are so common north of Cape Hatteras. In winter, however, beware of days when there is something almost liquid in the sparkling clearness of the sky and when a genial balm is in the air, for on a sudden great rolling masses of black clouds loom over the northern horizon and there comes roaring down upon one a wolf-like wind, the raw coldness of which can only be appreciated by those who have been its victims.

When all is said we must still be overcome by the impression of desolation and of gloom which is imparted by our southern coast. It is the region of the winding estuary, lost in an ocean of waving reeds; of gnarled old live-oaks, with their funereal pendants of Spanish moss dangling like old gray beards from the boughs; of dark stagnant pools, with the cypress towering like silent sentinels around their mysterious depths; of bristling thickets of bayonet-palm, and of monotonous wastes covered sparsely with the pine tree.

PAYING THE PENALTY OF WANTON WASTE

Everywhere one mourns the wanton destruction of interesting animal life, which might have been preserved to fascinate the naturalist and furnish legitimate sport for the hunter. The streams which once were the resort of myriads of water fowl are now silent and deserted. The wild turkey, the deer, and the bear are now very rarely met with. The alligator has become extinct over wide areas, the fisheries are declining, and the forests themselves are falling before the axe or withering under the wasteful bleeding of the turpentine industry.

In Florida especially the people have been most short-sighted in their failure to respect the game laws, and the state which might have retained unrivaled attractions for the sportsman and the naturalist has become largely barren of interest for both. Almost the only efficient protection of bird life in Florida is that under the auspices of the national Audubon societies, who, supported by private subscriptions, have in some measure succeeded in the preservation of the shore birds, although they must nearly always labor in opposition to the local sentiment of the people.

The impending ruin of the forests and extinction of the game in Florida are surely depriving the state of one of its chief attractions for the intelligent traveler. That something is not done to secure efficient conservation of Florida's existing resources of game and forests seems the more remarkable in view of the well-known result of the wiser policy of Maine, wherein their preservation has caused an annually increasing revenue to pour into the state, and this source of income is now the chief support of the population of its northern counties.

SCENES FROM THE LAND WHERE EVERYBODY DRESSES IN WHITE

THE interesting pictures of home life of the Korean given on pages 872-877 are from photographs by Rev. J. Z. Moore, a missionary to Korea of the Methodist Episcopal Board of Foreign Missions.

A TYPICAL CHURCH OF THE THATCHED ROOF TYPE AT SYO GOT, KOREA

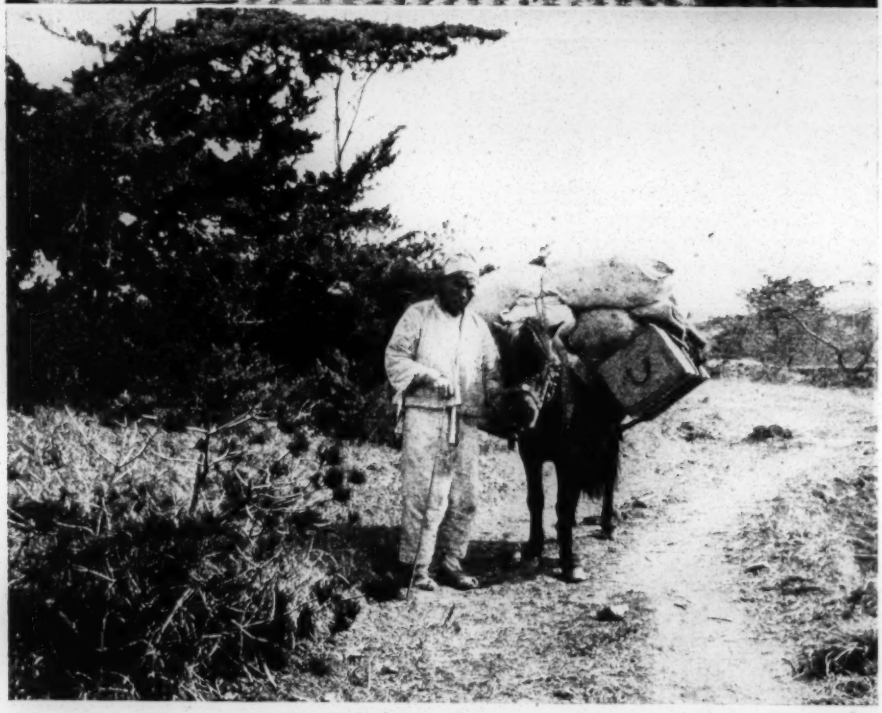
NURSE GIRLS IN KOREA

Photos from J. Z. Moore

ALL PLOWING IS DONE WITH BULLS IN KOREA

HAY CARTS IN KOREA

Photos from J. Z. Moore



WOMAN WEAVING
DELIVERY WAGON IN KOREA

Photos from J. Z. Moore

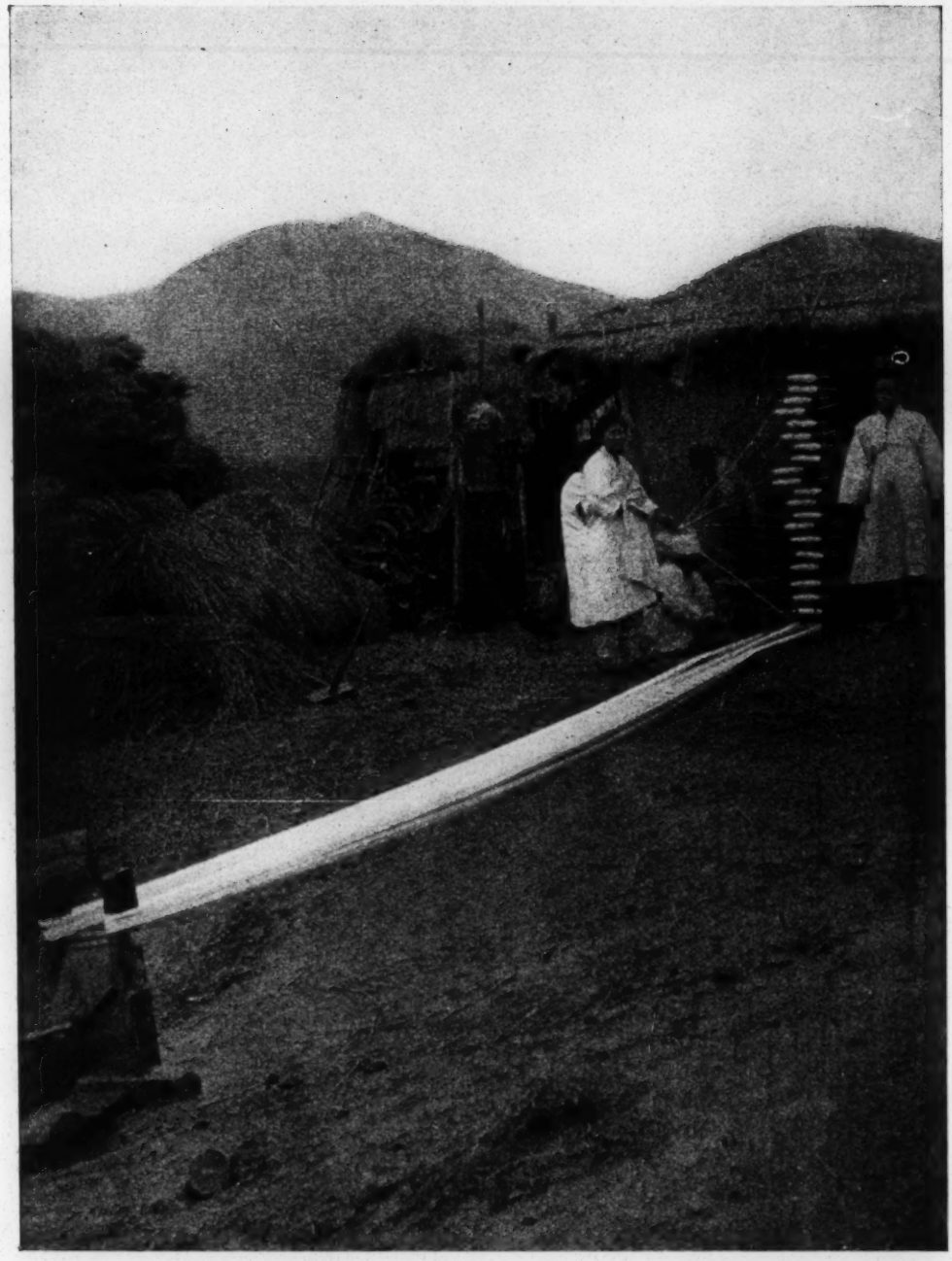


Photo from J. Z. Moore

WOMAN UNWINDING THREAD TO PUT IN LOOM, KOREA

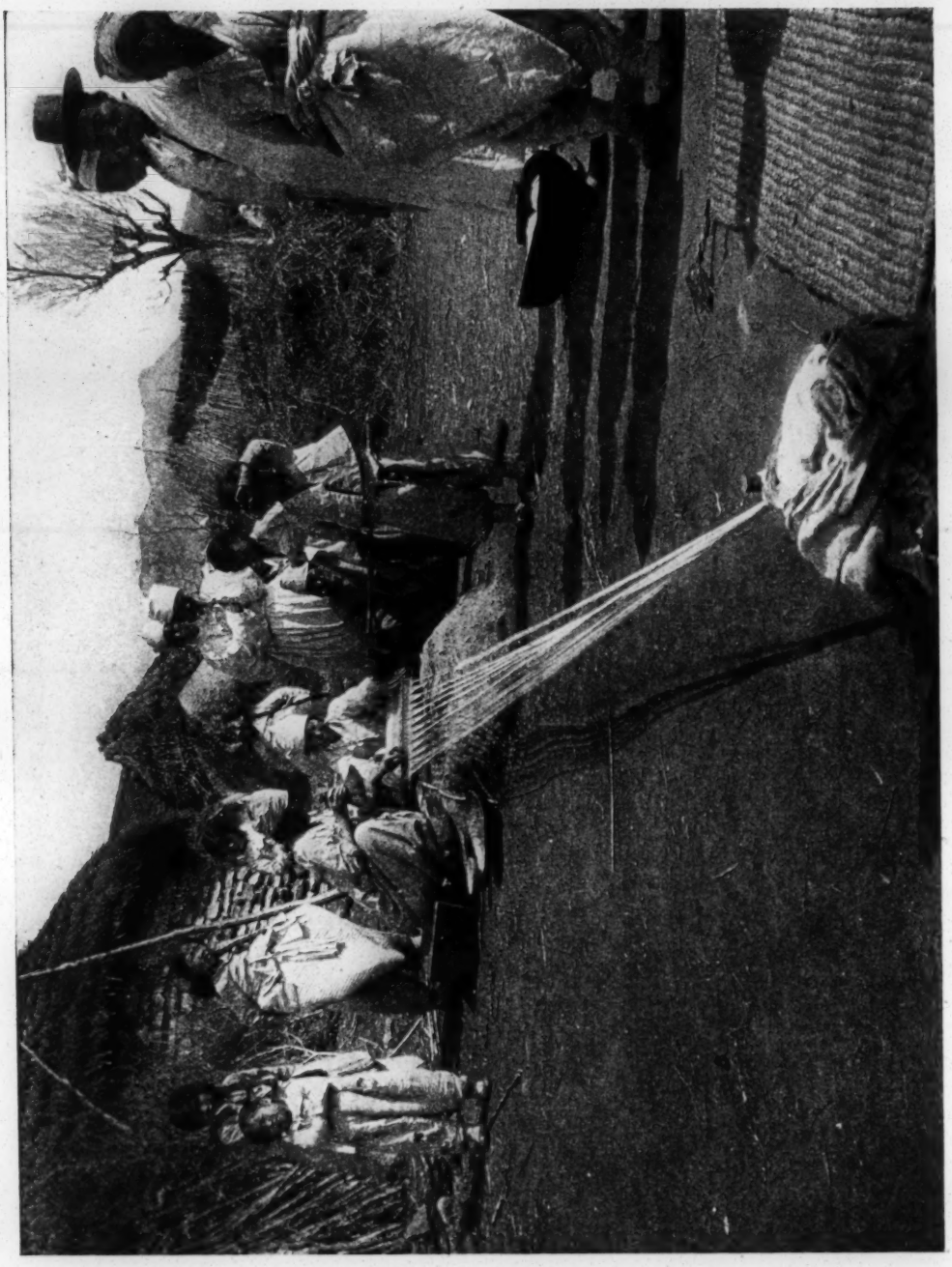


Photo from J. Z. Moore

WOMAN STARCHING THREAD AND PREPARING IT FOR LOOM, KOREA

Photos from J. Z. Moore

TWO CHRISTIAN GRANDFATHERS, AGED 78 AND 80. KOREA

A CANDY BOY

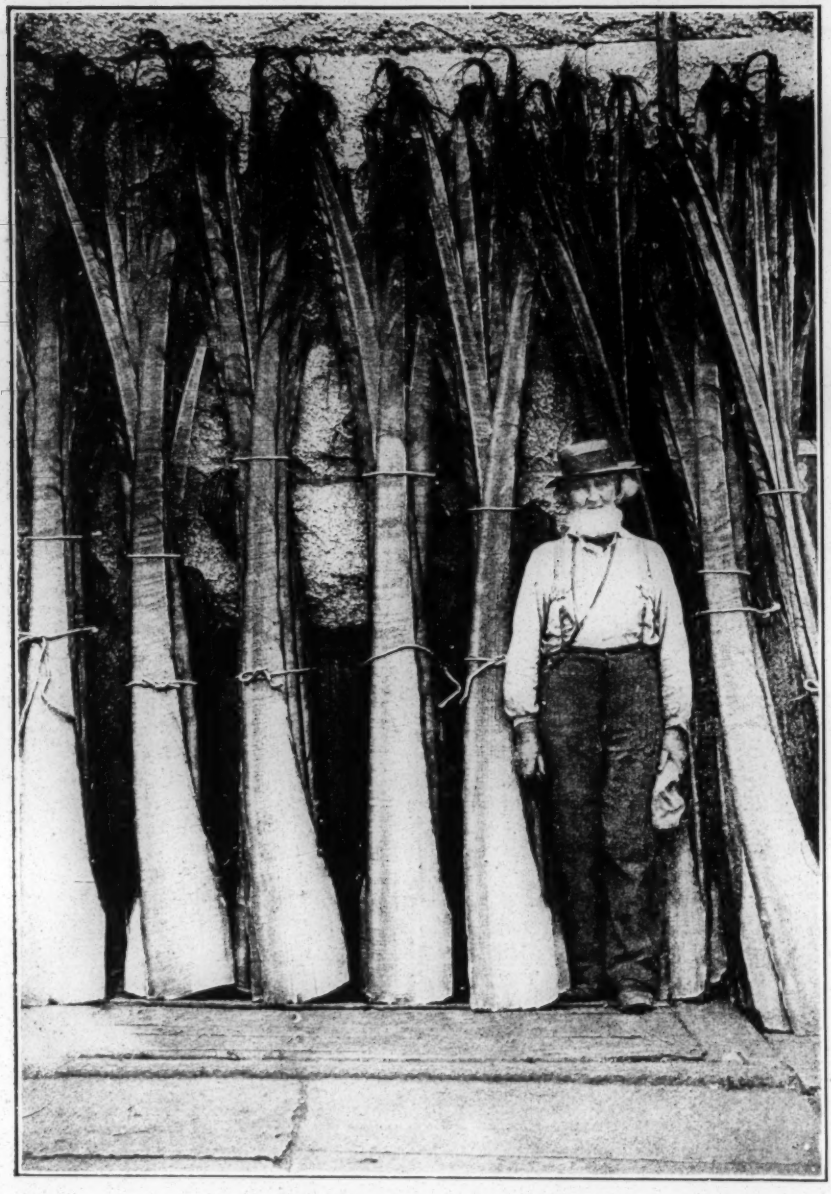


Photo from Charles H. Stevenson, U. S. Bureau of Fisheries

BUNDLES OF WHALEBONE AS RECEIVED AT THE FACTORY

(SEE PAGE 883)

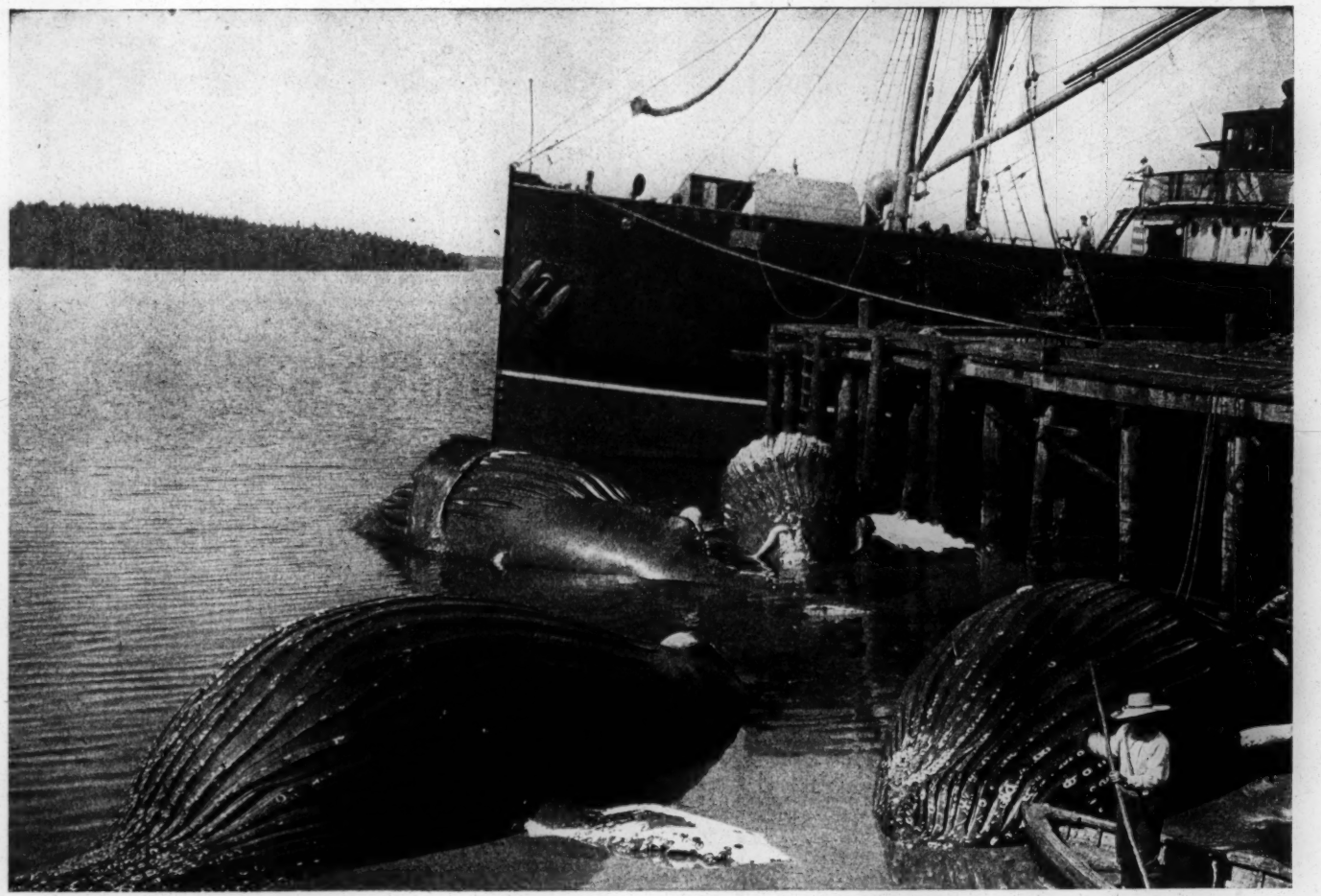


Photo by A. W. McCurdy, Victoria, B. C.

SCENE AT THE WHALING STATION, SECHAR, ON THE WEST COAST OF VANCOUVER ISLAND

The little white specks seen on the body of the whales are barnacles. These are humpbacked whales. They are much dilated by air, which was pumped into them as soon as they were killed, so that they would float high in the water and thus be easily towed.

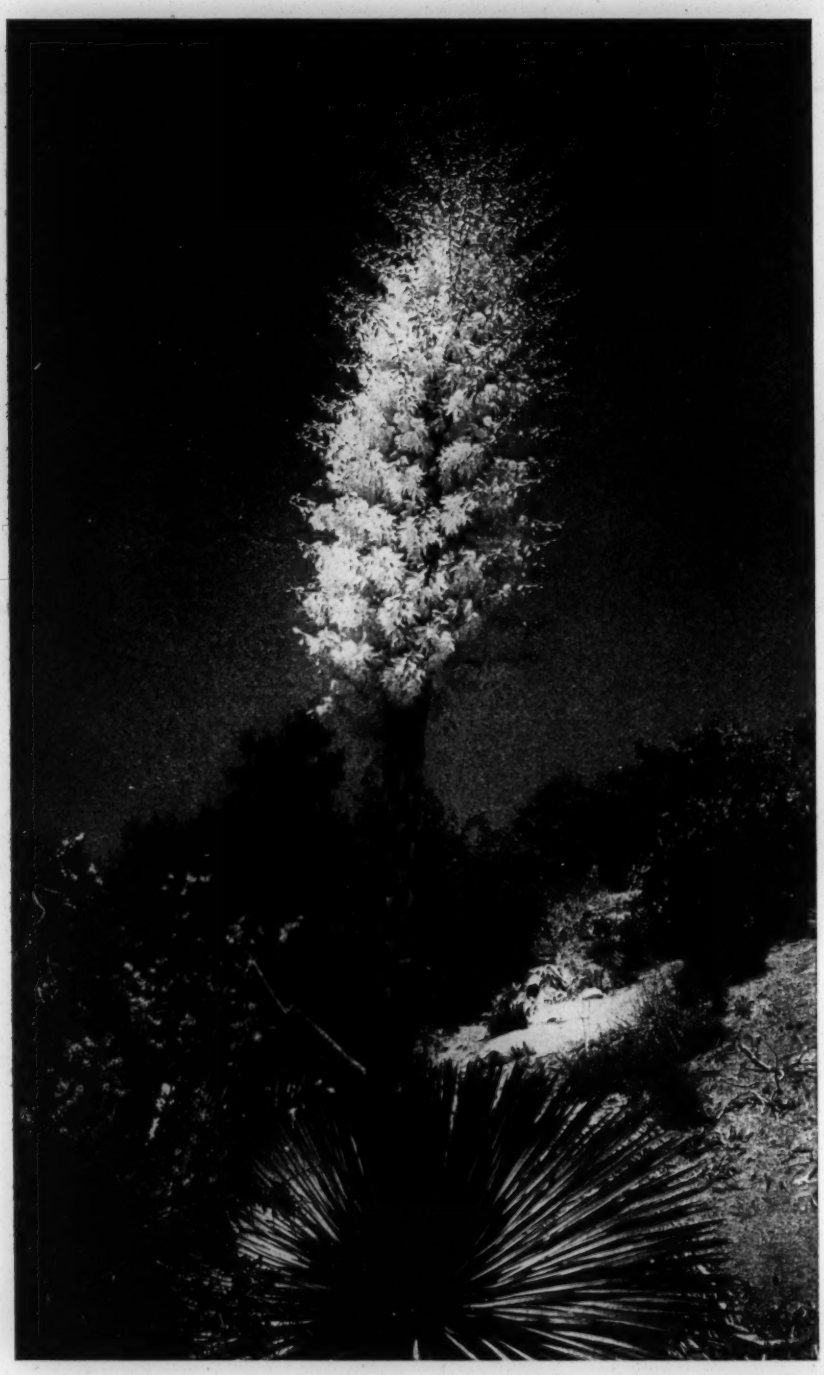


Photo by E. B. Gray, Azusa, California

A YUCCA, SEEN ON THE SLOPES OF MOUNT WILSON, CALIFORNIA

This illustration was sent to the Magazine by a California member of the National Geographic Society, who was much interested in the magnificent pictures of "The Magic Mountain," published in the July, 1908, number.

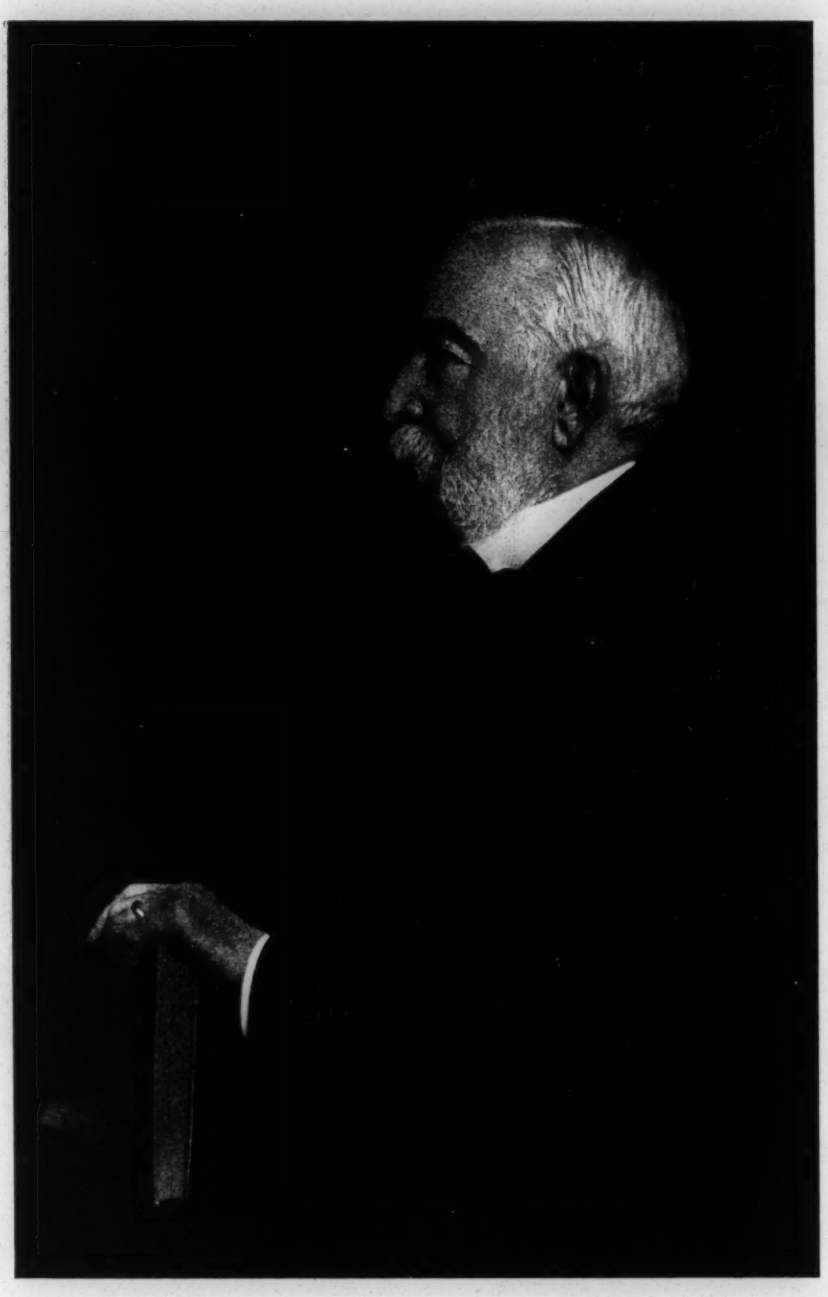


Photo by N. Schuman, Baltimore

THE LATE DANIEL COIT GILMAN (SEE PAGE 883)

Dr Gilman was actively associated with the work of the National Geographic Society from its organization in 1888, and a member of its Board of Managers from 1900 until his death.

Photo from Edwin A. Grosvenor, Amherst College

A BULGARIAN BRIDE AND GROOM

THE LATE DANIEL C. GILMAN

MEMBERS of the National Geographic Society and every person interested in geographic science will long remember the late Daniel C. Gilman for the leading part he has taken in geographical education and geographical work during the past fifty years. The first prominent position which Dr Gilman held was the chair of physical and political geography in Sheffield Scientific School from 1856 to 1872. He then acquired that liking and appreciation for the study of geography which characterized his professional career.

As President of the University of California, of Johns Hopkins University, and later of the Carnegie Institution, as author and again as editor-in-chief of the magnificent New International Encyclopedia, he always recognized the great importance of geographical research. Dr Gilman was one of the earliest members of the National Geographic Society and often addressed its meetings, and has always been actively identified with its work. The Society owes much to his kindly, encouraging, and broad-minded counsel freely given during 20 years.

THE PRODUCTION OF WHALEBONE*

IN the early days of the whale fishery the valuable qualities of whalebone were not well known, and comparatively little of the product was saved. The first importation into England is supposed to have been in the year 1594, when a quantity was picked up among the wreckage of a Biscayan ship.

An idea of the decrease in the supply of whalebone and the corresponding increase in value can be gathered when it is shown from statistics that in 1853 the total production in the United States was 5,652,300 pounds and the average value per pound thirty-five cents, while in 1906 the entire production was about 96,600 pounds, which sold at an average of $4.50 per pound!

*Consult "Whalebone: Its Production and Utilization," by Charles H. Stevenson. Bureau of Fisheries Document No. 626.

Of the whalebone taken by American vessels during the last twenty-five years, more than 90 per cent. has been secured in the Arctic Ocean, and the remainder mainly in Hudson Bay and in the Atlantic. The total product landed from the American fisheries during the nineteenth century exceeded 90,000,000 pounds, worth about $450,000,000 at the present market valuation.

The garniture of the mouth of the whalebone whales is totally different from that of the sperm whale. Instead of teeth, there is a strainer-like appendage called baleen, or whalebone, consisting of several hundred horny, elastic slabs or plates, which are attached to each side of the upper jaw. The number of slabs on each side ranges from 260 to 360. This number, as well as the length and quality, varies with the species and the size of the whale. The longest slabs are in the middle of each side, and they gradually decrease in length toward the ends of the jaw. When the whale's mouth is closed, the baleen fits into deep grooves; when the mouth is opened, the baleen springs forward so as to fill entirely the space between the jaws, permitting the water to pass through, but imprisoning the small mollusks upon which the animal feeds.

The lower edge of each slab of baleen, as it hangs from the upper jaw, is fringed with hair which resembles that of a horse's mane or tail, but is coarser and more brittle when dry. The external surface of the slabs has the appearance of enamel; the interior is fibrous and partakes of the nature of the hair-like fringe.

The material is regarded as a peculiar development of hair, each slab an agglomeration of hairs covered with enamel, and it is particularly interesting as indicating the transition from hair to horn.

The several species of bone-bearing whales yield baleen differing much in quantity, length, and quality. The choicest is from the bowhead of the Arctic Seas, yielding from 1,500 to 3,000 pounds each, the right-whale ranking

Photo by Herbert West

MALAYS IN NATIVE COSTUME: SINGAPORE

next with 1,100 to 1,300 pounds, while the average yield of the fin-back and hump-back is only about two hundred and fifty pounds from each animal, and of little value because of the poor quality and insufficient length.

The economic value of whalebone is due to its combined qualities of lightness, elasticity, and flexibility, even when split into very thin strips. It has also the property of permanently retaining any shape that may be given to it when it is heated, and then cooled under compression. It is therefore unrivaled as material for use in whips, corsets, for dress stays and similar purposes.

The cutting of whalebone—that is, changing the rough slabs into the forms and sizes suitable to the different uses—is carried on principally in New York City and Boston.

After delivery at the factory, in bundles containing 15 to 25 long single slabs which have been roughly cleaned, the first operation consists in cutting off the hair or fringe along the edge with a knife or a pair of shears. This hair ranges in length from two to eighteen inches, and is sold to brushmakers, who combine it with other bristle materials and use it in the manufacture of clothes-brushes.

Years ago whalebone was extensively used in making ribs for umbrellas and

A TAMIL BRIDE AND GROOM: SINGAPORE Photo by Herbert West

parasols, and was in demand for the manufacture of hoops, when that article of dress was fashionable. Another use was as covering for telescopes and other tubes, for this purpose the hair-like fringe and strips made from waste pieces being employed. These were employed also to make imitation haircloth for covering chairs and sofas.

The scarcity of whalebone has led to the introduction of many substitutes for use in corset and dressmaking, but so far few satisfactory ones have been found. Horn and rattan have been tried repeatedly without success, as they are liable to break and lack the resistance and lightness of whalebone.

AN AMERICAN SOUTH POLAR EXPEDITION

THE following communication from Commander Robert Edwin Peary, U. S. N., was presented by Herbert L. Bridgman, acting delegate of the United States of America to the Polar Congress recently held in Brussels:

"I beg to state that on my return from my coming Arctic expedition I shall endeavor, in every possible way consistent with my other duties, to promote and organize a national American Antarctic expedition to secure for this country its share of the honors and valuable scientific information still awaiting the explorer in that region.

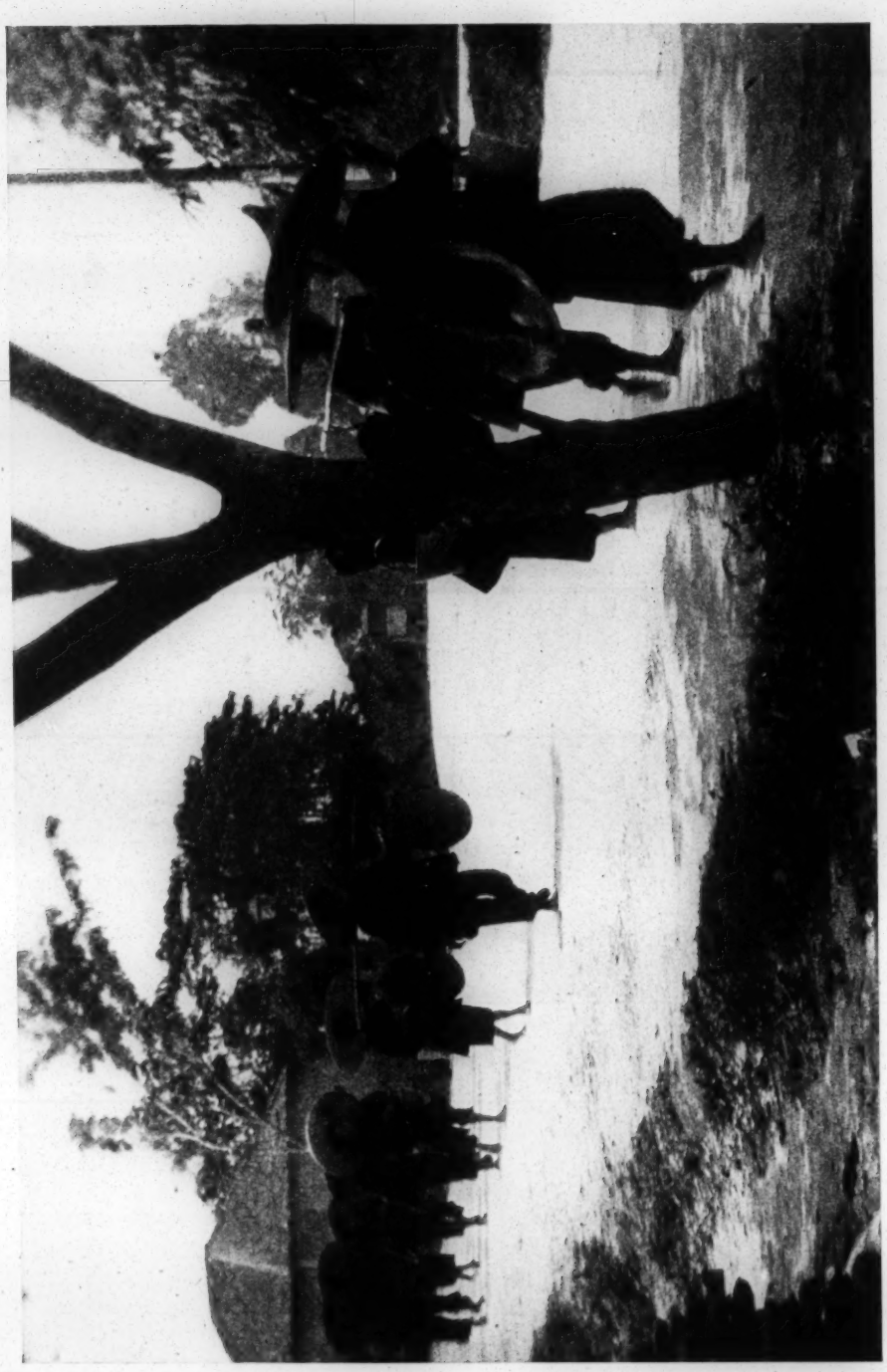


Photo by Herbert West

CHINESE COOLIE WOMEN WHO WORK IN THE TIN MINES OF THE MALAY PENINSULA

CHINESE PEPPER PLANTATION, MALAY PENINSULA Photo by Herbert West

The pepper plant is supported by poles, as shown in the illustration, growing to a height of 12 or 15 feet, and yields two crops a year. In the middle ages pepper was one of the most costly of spices. The fruit is a bright red berry of about the size of a pea.

"The project would include the building of another special ship on the same general lines and in the light of the experience gained in building and using the *Roosevelt*, and the utilization of the methods and equipment evolved during my past seventeen years of Arctic work. It would not contemplate my personal association with the expedition in the field.

"While it is too early now to make any definite statement, it is hoped that the Peary Arctic Club may lend its encouragement to the work.

"This project, I am happy to state, has the approval of President Roosevelt.

"At a subsequent session of the commission it is hoped to offer a more detailed presentation of the matter for such action or suggestions as the commission may see fit."

NATIONAL GEOGRAPHIC SOCIETY.

THE annual banquet of the National Geographic Society will be held on Tuesday evening, December 15, at 7.30 o'clock, in the large banquet hall of the New Willard Hotel, Washington.

The dinner this year will be in honor of the United States Navy, and the guests of honor will include the Vice-President and Mrs Fairbanks, the Chief Justice of the United States, Mr Melville W. Fuller; the Secretary of the Navy and Mrs Newberry, the Attorney General, the Secretary of Agriculture, Admiral Robley D. Evans and Mrs Evans. The Society will also have as its guests distinguished representatives of foreign countries and of official circles. At the conclusion of the dinner there will be brief toasts by the Vice-President, by Mr Newberry, Admiral Evans, Miss Mabel Boardman, Secretary of the Red Cross, and Mr William E. Curtis. The event promises to be even more enjoyable than the banquets of 1906 and 1907.

The subscription is $5.00 for each plate. Members have the privilege of bringing guests with them at the same price per plate.

December 11—"The Redemption of Ireland," by Mr William E. Curtis. No longer does the Irishman in Ireland live on potatoes and peat. Illustrated.

December 18—"Present Conditions in Turkey," by Dr Howard S. Bliss, President Syrian Protestant College, Beirut.

January 4—"The Sierra Nevada," by Dr Grove Karl Gilbert. Illustrated.

January 8—"A Digger's Work in Palestine," by Dr Frederick J. Bliss, author of "A Mound of Many Cities," "Excavations in Palestine," etc. Dr Bliss has been conducting important excavations in Palestine for 20 years. In one mound he found eight cities buried one under another. Illustrated.

January 15—"The Non-Christian Tribes of the Philippine Islands," by Dr Frederick Starr, of the University of Chicago.

January 22—"The Panama Canal and the Spanish Main," by Mrs Harriet Chalmers Adams, author of "Wonderful Sights in Andean Highlands," "Land of the Incas," etc., in the NATIONAL GEOGRAPHIC MAGAZINE. How 40,000 men are making the dirt fly at Panama; how they are cared for; their mess halls and amusements. With an excursion to the Spanish Main. Illustrated with lantern slides and moving pictures.

January 29—"Abraham Lincoln—Boy and Man," by Mr W. W. Ellsworth, of the Century Co. The year 1909 is the centenary of Lincoln's birth.

February 5—Major General A. W. Greely, U. S. Army, will address the National Geographic Society. The subject of this lecture will be announced later. Illustrated.

February 12—"The Bird Islands of Our Atlantic Coast," by Mr Frank M. Chapman, of the American Museum of Natural History. Illustrated with lantern slides and moving pictur s of the pelicans and fish hawks.

February 19—"Java—The Garden of the East," by Mr Henry G. Bryant. Mr Bryant, like the majority of travelers, describes this island as "the most beautiful and fascinating region in the world." Illustrated with lantern slides and moving pictures.

February 26—"Aërial Locomotion," by Mr Wilbur Wright or Mr Orville Wright.

March 12—"The Hunting Fields of Central Africa," by Mr Gardiner F. Williams, author of "The Diamond Mines of South Africa," and for 20 years general manager of the De Beers diamond mines at Kimberley. Illustrated with lantern slides and moving pictures.

March 19—"Ruwenzori, the Snow Crowned Mountain of the Equator," by Prof. Edwin A. Fay, of the Tufts College, President American Alpine Club.

March 25—"Brittany—The Land of the Sardine," by Dr Hugh M. Smith, Deputy Commissioner of the U. S. Bureau of Fisheries.

April 2—"Homes for Millions—Reclaiming the Desert," by Mr C. J. Blanchard, of the U. S. Reclamation Service. Illustrated with lantern slides and moving pictures.

XUM

WALTHAM WATCHES

OBSERVATIONS BY GREAT OBSERVERS

From Autobiography of

HERBERT SPENCER

Vol. II, Page 167, American Edition.

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To Our Readers

WE ask every reader of this Magazine to recommend it to his or her friends. During the year 1909 the publication will be more entertaining, more instructive, more indispensable than ever. In its educational value we believe the Magazine is unequalled by any other periodical. It ought to be taken by every public and every school library in the United States and Canada.

The following quotations are from letters by readers of the NATIONAL GEOGRAPHIC MAGAZINE:

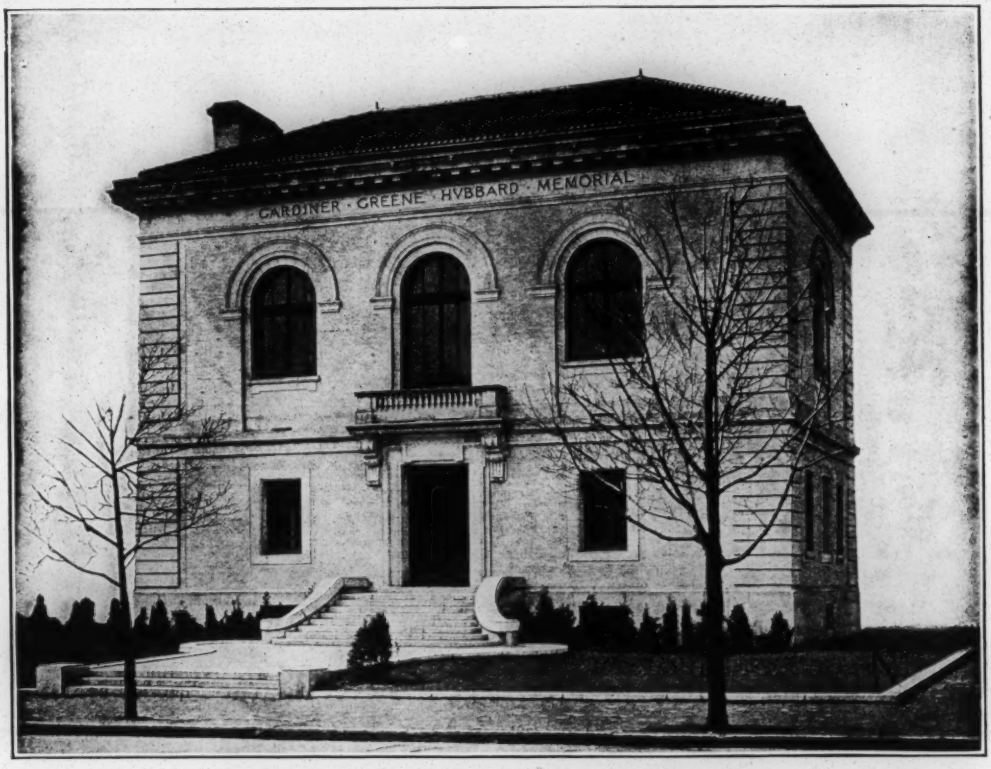
"The MAGAZINE seems, if possible, to grow more valuable and more beautiful with every number."

"There is always a happy time in my study when the NATIONAL GEOGRAPHIC MAGAZINE arrives. Although I take a large number of periodicals, there is not one which I enjoy more thoroughly and which reveals to me more that it is important for a thinking American citizen to know."—*From Andrew D. White, formerly Ambassador to Germany, Minister to Russia, ex-President of Cornell University, etc.*

"The NATIONAL GEOGRAPHIC MAGAZINE is just long enough and just short enough for its purpose. If you meet with a friend of mine say that I always read it through, which is more than I can say of most magazines. Then it is cheap beyond example."

—*From Edward Everett Hale, author of "The Man Without a Country."*

National Geographic Magazine, Washington, D. C.



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¶ The September number contains the following articles:

The Course of the Vegetative Seasons in Southern Arizona. By Dr. D. T. MacDougal.

Methods of Reproduction in Guayule (a Mexican Rubber Plant) and Mariola. By Professor F. E. Lloyd.

The Western Edge of the Colorado Desert. By Prof. V. M. Spalding.

Bower's Origin of a Land Flora. By Dr. W. A. Cannon.

¶ Subscriptions, $1.50 per year. New subscribers remitting before January 10, 1909, will receive the November and December numbers free. Sample copies on application.

THE PLANT WORLD, TUCSON, ARIZONA

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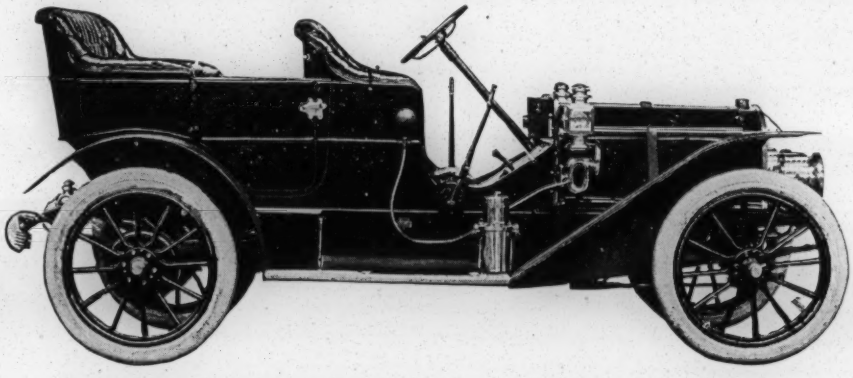
Rambler ~ 1909



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U. S. Geological Survey

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